







LECTURES

ON THE

MORBID ANATOMY, NATURE,

AND

TREATMENT,

OF

ACUTE AND CHRONIC DISEASES;

BY THE LATE

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ARMSTRONG'S
PRACTICE OF MEDICINE.

LECTURE XXX.

COMMON INFLAMMATORY FEVER.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, PATHOLOGY,
DIAGNOSIS, PROGNOSIS, AND TREATMENT OF ACUTE, SUB-ACUTE,
AND CHRONIC RHEUMATISM.

IN this lecture I shall make some observations on Rheumatism, or what is often called Rheumatic Fever.

The word rheumatism implies an hypothesis, the affection having formerly been supposed to depend upon some disorder of the fluids.

PREDISPOSITION TO RHEUMATISM

Rheumatism prevails in the different members of some families very remarkably ; and when this tendency exists hereditarily, inflammation of the pericardium, enlargement of the heart, and inflammation of the sclerotic coat of the eye, are very common, and inflammation of the iris is not uncommon.

The tendency to rheumatism, however, is generally acquired, and that from four sources.

1. From a break-up of the general strength.
2. From exposure to a high or low, but especially to a variable temperature.
3. From disorder of the stomach, liver, or bowels.
4. From previous attacks.

REMOTE OCCASIONS OF RHEUMATISM.

The common exciting occasion of rheumatism is cold—a low temperature, but especially a variable temperature.

At Demerara it is very prevalent; for there the variations of temperature throughout the day are very great. It is most prevalent in this country in winter and spring, when the temperature is very variable; but it sometimes is prevalent in summer, especially in those summers when north-east winds prevail; for then the mornings and evenings are very cold, but the middle of the day is often excessively hot, and there is a range of 10° or 12° of the thermometer in a day.

Rheumatism occurs most frequently either in frosty or in rainy weather. In frosty weather additional clothing should be worn; and in rainy weather the clothes if wet should immediately be changed.

If an individual get drenched with rain and rest while he is wet, he is very liable to an attack of rheumatism; but if he continue walking and change his clothes immediately he gets home, he may probably escape without this affection. Therefore a person getting wet on the top of a coach is very liable to an attack of rheumatism. And it arises in individuals who are predisposed to it from putting on damp linen.

A friend of mine was very curious about his linen, and was accustomed to weigh it when it came home from being washed; and then, after drying it before a fire, he weighed it a second time, and always found a considerable diminution of weight.

Persons travelling often contract rheumatism from changing their beds. At some inns they have an abominable habit of wetting sheets and placing them between a press, and then putting them on a bed a second and a third time. Therefore, persons sleeping at inns, particularly those who are predisposed to rheumatism, should see that the sheets are well aired before they are put on the bed, or they should sleep between the blankets.

Currents of air produce rheumatism.

A medical man, a friend of mine, has had several attacks of rheumatism from sitting in a small study, through which there were several currents of air; but he has never had an attack since he has been in the habit of sitting in a large room.

Commercial men, by exposure to currents in small offices, and studious men living in small apartments, are liable to rheumatism.

A medical man once told me that rheumatism occurred less frequently in Germany than in England, and he believed one reason of this

was the different method of heating rooms. Our apartments certainly have a very considerable range of temperature.

The affection called rheumatism, like gout, assumes three characters : 1. An acute character ; 2. A sub-acute character ; and 3. A chronic character.

When the external inflammation has the acute or sub-acute character there are pain and fever, both of which are considerable : being most urgent in the acute, and less so in the sub-acute form. When the external inflammation is chronic it is distinguished from the acute and sub-acute, generally speaking, by the absence of fever.

SYMPTOMS OF ACUTE AND SUB-ACUTE RHEUMATISM.

If the inflammation of an external part be seated about a joint, when the limb is at rest the uneasiness is a numb aching pain, attended, in the acute and sub-acute character, by, generally, a slight degree of redness and swelling, and higher heat in the part affected than in the surrounding parts. The pain is increased especially by motion. The blood drawn from the arm is remarkably buffy ; and if you abstract blood, as long as the pulse is quicker and the heat higher than natural, it will show the buffy coat. The pulse is quick, and generally very expanded ; the heat on the surface is generally very high ; and the skin generally damp, at least at times. There is considerable thirst ; a thick white fur on the centre of the tongue ; and the urine is almost always scanty and high coloured, depositing a pink sediment.

The fever has a tendency to subside very remarkably toward the morning, and to increase toward the evening. This abatement generally comes on in the morning with perspiration ; and in the evening again the skin is hot, and there is an increment of the fever.

The pain has various seats. Rheumatism especially attacks the larger joints and the fibrous membranes ; the ligaments and fasciæ covering the muscles are often the seat of the affection. Sometimes the serous membranes, the bursæ, and synovial membranes, are affected ; sometimes the muscles themselves are the seat of the disease. Sometimes it attacks both external and internal structures—the intercostal muscles, the pericardium, the muscles of the bowels ; and sometimes it distinctly follows the course of the nerves, existing either in the sheath or in the substance of the nerves, or in both ; and in some cases slightly attacking the skin, though the skin is less affected in rheumatism than in gout.

The pain in the muscles is sometimes spasmodic ; and it should then be attentively watched ; for it is very likely suddenly to become inflam-

matory. When this spasmodic pain is situated in vital parts you should observe it very particularly, that if it become inflammatory no time may be lost before you attempt to arrest it.

The duration of acute and sub-acute rheumatism is various: if not checked in the very onset it very often is protracted. If it have gone on four or five days without interruption you may diminish its violence, but you cannot remove it in a few hours as you can inflammation of a serous membrane. It has then generally a determinate duration.

PATHOLOGY OF ACUTE AND SUB-ACUTE RHEUMATISM.

Rheumatism, like gout, is sometimes a complicated affection, though very frequently it is a simple affection.

1. It may be considered as a simple affection when the inflammation is seated externally, as in the joints, ligaments, bursæ, fasciæ, muscles, and nerves which are running externally. Here you have fever, with inflammation in some external part only.

2. It may be considered complicated when, in addition to this, there is some internal inflammation. This is very common; and, therefore, it is important that you should investigate the internal pathology in every instance.

There are two ways in which a patient may have an attack of internal inflammation in rheumatism:—

1st. From excitement. The heart's action and the animal heat being increased when the external inflammation is acute or sub-acute, the predisposed part may suffer.

2d. From what has technically been called metastasis, or translation.

It sometimes happens that translated rheumatism occurs, like translated gout; but it hardly ever occurs, except when disorder of the alimentary canal is joined with it, or the individual is suddenly exposed to a chill.

The internal inflammation is mostly seated in some fibrous membrane, as the dura mater, or the pericardium; but it may spread to the serous membranes; for instance, the pleura, and peritoneum.

I saw an army surgeon who was in the first instance the subject of simple rheumatism. In a short time his liver was inflamed, because it was predisposed, for he had long resided in hot climates; and the inflammation of the liver soon became so violent as to form the leading point of the affection.

I was called to attend a lady who had simple rheumatism. In the progress of the affection the bowels, which were previously disordered,

became distinctly inflamed. She afterwards became hysterical, and after that maniacal.

Remember, that however a disorder begins it does not follow that it shall assume the same character throughout its progress; it may be combined with some other affection as it proceeds.

I saw a gentleman who laboured under a very slight attack of rheumatism. He had a sister-in-law in the house who was in the last stage of consumption. A violent shriek from some part of the family led him to suppose that the fatal event had taken place, and this suspicion was confirmed on inquiry. The shock communicated by the intelligence was so great that he sunk into a state of extreme depression, which was succeeded by a stage of excitement, and he had inflammation of the bowels, of the air-passages, and of the pericardium, and, in fact, of almost every structure in the body, and sunk and died with great rapidity.

I have seen many cases where the internal inflammation has arisen from what has been called a metastasis or translation,—terms which we do not distinctly comprehend. This metastasis frequently happens when the stomach, liver, and bowels, are affected. There seems to be some strong connexion between these organs and the animal heat and nervous fluid (for there seems to be such a fluid.) It generally happens that there is a retrocession of external heat; and thus the internal parts become affected. By increasing the temperature of a foot in gout, the affection may be translated to it from the hand.

I know a gentleman who can at pleasure translate gout from the hand to the foot, by increasing the temperature of one foot and decreasing that of one hand.

The fact at any rate is indisputable, that these inflammations do occur, and sometimes suddenly and to a great extent.

I was called to attend a lady in the morning, and she then had inflammation of the hip. In the afternoon I was again sent for, and found that the pain had suddenly left the hip and was fixed in the bowels: and she had acute inflammation of the bowels, which required copious blood-letting for its removal. She ultimately recovered, although she had simultaneously inflammation of the peritoneal and mucous coats of the intestines.

I had a patient, who was admitted into the Fever Hospital while labouring under typhus fever, from which he recovered. As I had not then a convalescent ward, he was, during his recovery, exposed to a current of air, and had rheumatism of his right elbow and shoulder. For some hours daily the affection left these parts, and attacked the

dura mater, returning again to the elbow and shoulder after a time. At last it became permanently fixed in the dura mater and brain, which were violently inflamed, and he sunk with great rapidity. On examination after death, the dura mater, pia mater, and tunica arachnoides were very much inflamed. The brain was inflamed, soft, and pulpy, resembling custard pudding.

A patient in the Fever Hospital, who had been accustomed to wear a flannel waistcoat, left it off when he was admitted. He had typhus fever, and during his recovery he had inflammation of the pericardium, so as to have a very narrow escape.

The pericardium is the part most frequently attacked by this translocation.

In the progress of scarlet fever there is an affection occurring which precisely, or at all events very closely, resembles rheumatism, and which I think is the same thing. It arises commonly from cold.

A patient whom I attended had scarlet fever. He was an upper servant in the Charter House School, and was put under my care in the Fever Hospital. With the scarlet fever he had rheumatism in the ankle. He got up to a night chair during the night while the air was cool, and the inflammation left his ankle but the pericardium became inflamed. One hundred ounces of blood were necessary to be drawn in order to remove that inflammation.

I was called to see a gentleman the history of whose case is as follows:—He had long had disorder of the stomach, liver, and bowels, and had recently come to London to superintend an important concern. He contracted an attack of rheumatism, from which he was convalescent; but being very anxious to return to his business he went out too early, and had wandering pains particularly about the region of the heart, and a disposition to faint when he moved. The family medical attendant found him on Sunday night with these symptoms, and a feeble pulse. He therefore thought proper to wait before he bled him. Next morning I saw him, and then he had an irregular and in some degree an expanded pulse, and pain in the region of the heart. When he talked he panted, and appeared out of breath, like a person who has been running; but on ceasing to speak his breathing was less troublesome. I directed him to turn on his left side. He did so, but turned himself very cautiously, and panted and heaved. The difficulty of breathing was somewhat relieved again by lying on his back, and keeping himself very quiet. His pulse was rather expanded; and though expanded, yet it was a compressible pulse. In the region of the heart the pulsation was very strong. He was bled to approaching

syncope, and immediately afterwards took three grains of opium and one of calomel; which relieved him for a time. On visiting him in a few hours we found that he had the same symptoms in a subdued degree. We bled him again in the same decisive way, giving him afterwards two grains of opium and one grain of calomel, followed by colchicum. The next day he was quite convalescent.

These translations generally arise from cold; therefore remember to keep the apartment at a certain temperature by the use of a thermometer, and have a nurse in the same room with the patient during the night.

The sequelæ of rheumatism are various.

Rheumatic subjects are not only liable to acute pericarditis, but chronic inflammation of the pericardium not unfrequently occurs, and goes on under a very insidious character, as I shall illustrate hereafter; and chronic enlargements of the heart itself are not uncommon after repeated attacks. Chronic inflammation of the dura mater sometimes takes place; sometimes chronic inflammation about the joints, which in some instances assumes the character of strumous inflammation, or what is called white swelling. The bursæ sometimes become chronically enlarged; and this occurs especially in women. Sometimes the joint is remarkably twisted at the same time.

SYMPTOMS OF CHRONIC RHEUMATISM.

The most common form of sequela is chronic rheumatism, which is generally then more obstinate. But it should be remembered that chronic rheumatism very frequently arises as an original affection, independently of acute or sub-acute rheumatism, and sometimes there is a slight degree of fever with it; but the general diagnostic between acute and sub-acute and chronic rheumatism is fever.

The pain in acute or sub-acute rheumatism is generally aggravated, but in chronic rheumatism it is sometimes alleviated and sometimes increased, by the warmth of the bed.

I saw a gentleman last winter who had chronic rheumatism, and the warmth of the bed prevented him from sleeping. On examining the quantity of the bed-clothes I found that he was loaded with blankets; and when some of them were removed his nights were comfortable.

Sometimes, however, in chronic rheumatism the pain is increased by the warmth of the bed. The part affected is stiff, cold, and slightly swelled, especially about the bursæ. The pain is increased by motion. There is very often a deposition of synovial fluid in the joint, which

may be heard by moving the limb. The pain is almost always increased when the weather is changeable.

Chronic inflammation often breaks up the health, but especially when the sleep is disturbed; for then the stomach, liver, and bowels become affected. The term *anthritis* has been used as applicable to all forms of chronic rheumatism.

It affects principally the hands and feet, but sometimes various other parts of the body. Sometimes it attacks the muscles of the neck, sometimes those about the shoulder, sometimes the elbows, or ankles, but especially the knees. Sometimes it attacks the muscles and fasciæ of the back, and then it is called *lumbago*.

Sometimes it follows the course of the nerves, especially the sciatic nerve, and then it is called *sciatica*. This probably depends upon inflammation of the sheath of the nerve.

DIAGNOSIS OF SCIATICA.

I. FROM INFLAMMATION OF THE HIP-JOINT.

Be careful not to mistake this for disease of the hip-joint. You may distinguish these affections by attending to the following points:—

1. In *sciatica* there is no swelling; but when the hip-joint is inflamed there is some degree of enlargement of the joint, which will be evident if you compare the two hips together.

2. If you make pressure in the groin, especially in the direction of the trochanter minor, it invariably gives pain. Pressure suddenly applied under the foot gives pain, and that considerable, for then the head of the bone is pushed against the acetabulum.

3. The patient lies in a peculiar position so as to favour the hip-joint. Generally the spine is twisted in a contrary position, different to what happens in *sciatica*.

4. The pain in hip-disease is increased by motion of the joint.

5. The limb becomes first longer, and at last shorter, than the other. As the disease goes on for three weeks or a month, the leg is drawn up: in the first instance generally by a muscular affection; and then there is a sort of dislocation, so that the limb becomes permanently shorter; but sometimes, if there be a large effusion about the joint, the limb becomes longer. When ulceration has occurred the limb becomes permanently shortened.

6. And as the disease advances, you have almost always a wasting of the glutei muscles, arising from their state of inaction.

7. In inflammation of the hip-joint the pain is frequently more con-

spicuous about the knee than about the hip-joint. In sciatica the pain at first is felt in the hip, and afterwards extends to the knee.

Make a minute examination, and be not deceived by this circumstance, and you will be at no loss to detect the nature of the disease. Use your own eyes, ears, and head, and by all means get the history of the case from the patient himself.

II. FROM OVERLOADED COLON.

A circumstance which it is very important that you should remember is, that when the colon is overloaded with fæces, the leg is sometimes drawn up, with pain in the hip; and an affection is produced similar to scrofulous enlargement of the hip-joint. Even a thickening may arise about the hip-joint, if the patient lie on it long. Recollect, then, to examine the state of the bowels, and ascertain whether the colon is overloaded with scybala.

I have already alluded cursorily to one form of rheumatism of the chronic kind, situated in the back, and called lumbago. Here you have pain on motion of the back with no swelling.

DIAGNOSIS OF LUMBAGO.

Lumbago may be distinguished

I. FROM PSOAS ABSCESS;

in which there is a pain about the back and loins, referrible to the spine generally; and the part especially affected is to be made out by pressure. But if you attend to the following points you will be in no danger of confounding the two affections:—

1. In psoas abscess there is uneasiness in the back with a sense of pain or weakness when the patient stands or walks; and this pain or weakness comes on very insidiously.

2. This generally is increased when the toes are turned far inward or far outward by rotation.

3. With your knuckles strike, but not violently, each vertebra separately, and you will find that when you touch that which is diseased the patient will flinch; and you may very often distinguish it by slight pressure.

4. The patient cannot use the lower limbs much without producing pain in the back.

5. Flexion and extension of the limb give a still more correct

diagnosis, especially extension which produces distinct uneasiness in the back.

6. My friend Mr. Grainger has observed, that patients under this disease, in extending the limb from the back, draw the body at the same time forward to avoid giving themselves pain. If you tell the patient to extend the thigh, he generally does it very gradually, keeping the extension of the extremity and the flexion of the limb in a direct ratio to each other. Therefore, in drawing a diagnosis from the pain excited by extension, do not allow the trunk to be brought forward.

7. As the disease advances there is generally a tumour, with distinct fluctuation on coughing, either above the groin, as when the patient lies in bed; or sometimes below the groin, or in the thigh, as when the patient is erect.

When the patient has lain in bed the pain occurs sometimes in the loins.

II. FROM CHRONIC HEPATITIS.

One other affection may be confounded with lumbago, and that is chronic inflammation of the root of the liver. I once made this mistake.

I saw a naval captain with lumbago as I thought. He had rheumatic inflammation in other parts. I examined him minutely, and near the spine I found the root of the liver was inflamed; and this was made still more evident by an examination of the stools.

By pressing the liver backward and forward from the spine to the ensiform cartilage, and by inspecting the stools and urine, you will soon see whether the root of the liver is inflamed.

III. FROM OVERLOADED COLON.

An overloaded state of the colon is sometimes attended by pain in the back as well as by pain in the hip. I have seen many cases of this kind, and the pain has ceased when the scybala have been dislodged. The overloaded colon may be known by signs which I have several times mentioned: by the irregular feel of the abdomen in the direction of the colon, and by the examination of the stools.

IV. FROM CHRONIC NEPHRITIS.

Do not confound lumbago with chronic inflammation of the kidney, but attend to the symptoms of that affection as they are enumerated in these lectures.

One of the best guides in the diagnosis is the effect of rising up and

sitting down. In lumbago when the patient first attempts to rise the pain is extremely great.

V. FROM SYPHILIS.

Again, be careful in every case resembling chronic rheumatism to find out whether the patient labours under ternary syphilis.

I was consulted by a gentleman who said he had chronic rheumatism of the head; I found that he had a large node, and that he had been the subject, consecutively, of the primary, secondary, and ternary forms of syphilis.

In another instance a gentleman told me that he had suffered for a long time from chronic rheumatism of the leg; and he had also a syphilitic node, and had previously suffered from chancre, eruptions, and sore throat.

Be cautious, therefore, in your investigations, and if you find the patient has had all the three forms of syphilis, there can be no doubt of the nature of the case; and, besides, the aspect of the patient is usually unhealthy, attended with a faded, sickly, sallow, appearance of the skin; and with this alteration of the complexion there is some disorder of the mucous membrane of the alimentary canal.

There is another affection, differing in its pathology from chronic rheumatism, and of which I shall speak at length hereafter. It occurs, in persons who have disease of the stomach, liver, and bowels, that gout and rheumatism go together, and the affection is called rheumatic gout.

If the brain and spinal cord be chronically inflamed, the affection is sometimes called rheumatic palsy.

Be upon your guard in affections having a rheumatic character. Whenever disorder or disease of the spine exists, it always imitates rheumatism. Many cases which pass for chronic rheumatism are really examples of pains which arise from chronic affection of the brain or spinal cord. When you are called to a case having either the acute, sub-acute, or chronic character of rheumatism, be on your guard; for serious affections of the brain and spinal cord are often first announced by wandering pains of the trunk and limbs, with some deficiency of power, perhaps, in the upper and lower extremities. You should, therefore, I repeat, be careful in examining, physiologically and pathologically, all cases which partake of the appearance of rheumatism. And if you compare what I have said of the indications of a sound and morbid condition of the nervous system with the symptoms as they occur, you will have no difficulty in making this important distinction; for if

these cases be properly treated an attack of palsy or apoplexy may often be prevented.

PROGNOSIS OF ACUTE AND SUB-ACUTE RHEUMATISM.

If it be simple rheumatism the case is not dangerous, but if it be complicated with some internal inflammation it is very alarming.

In considering the

TREATMENT OF ACUTE AND SUB-ACUTE RHEUMATISM,

you will recollect that these forms differ only in degree, and require to be treated accordingly.

If the inflammation be external only, in the acute and sub-acute characters; if the patient be strong, and not far advanced in life—for instance, not past his fortieth year; if he be robust, and if he have been tolerably temperate, the best thing you can do will be to bleed him decisively. If you see the case early you will in this way almost invariably cut it short at once. But if the attack have been established for many days, especially if the weather be cold, it has a sort of determinate duration, and if you do not make an impression early, it is apt to be very protracted. If at an early period you abstract blood moderately from the arm so as to lessen the force and frequency of the heart's action and diminish the heat, purge the patient every morning, and give a drachm of vinum colchici at night: you will remove it in a few days.

If, however, the individual be weak, and have a pallid countenance, you will by such treatment do mischief; you will reduce the strength, perhaps, without removing the inflammation; and fever having the character of typhus may follow, and destroy the patient, who is already reduced in strength by previous disorder.

If the patient be robust and not very old, do not regard the quantity, but bleed him to approaching syncope.

If he be delicate, use local blood-letting by means of leeches, and use it till an effect is produced on the heart's action.

Then exhibit purgatives in the morning, and colchicum at night daily.

As purgatives I generally give calomel and rhubarb, with sulphate of magnesia and infusion of senna.

I give half a drachm or a drachm of the tincture of colchicum, according to the degree of debility of the subject; one drachm to a robust man, half a drachm to a delicate man. The powder seems to be quite

as efficacious as the tincture or the wine. From three to five grains may be given, with from a scruple to a drachm of sulphate of magnesia, four times a-day.

Recollect that colchicum is a dangerous remedy when sickness supervenes.

Under this plan all my patients recover, unless when the weather is very changeable.

Avoid a variable temperature by the use of a thermometer in the patient's room, and always endeavour to put the patient in a room which admits of the regulation of the temperature, so that it shall not range more than 5° or 6° in the day. Secure the patient from a variable atmosphere when he is recovering.

When these ordinary remedies fail to relieve rheumatism, two grains of calomel may be given with half a grain of opium every six hours with benefit ; but the colchicum is far more efficacious.

Do not give too large doses of opium as some persons do to relieve the pain in rheumatism.

I saw a case in which a lady lost her life in that way.

Be cautious, also, about repeating large doses of opium, especially if you have not abstracted blood. If you have, in a case of rheumatism, given a large dose of opium in the first instance, give afterward a smaller dose.

If the affection become subdued but not removed, it must be attacked by milder measures, attending to ventilation and cleanliness. And in this state blisters are sometimes very serviceable.

TREATMENT OF CHRONIC RHEUMATISM.

I attach more importance to general management than to physic ; and not only in chronic rheumatism, but in all chronic affections. If you do not attend to the diet your treatment will not be successful in acute or sub-acute diseases. In chronic diseases neglect of the diet will be attended, though slowly, with fatal effects.

An animal diet is best if there be no fever. If the patient be at rest he should live on ten or twelve ounces of food in twenty-four hours. He may have an ounce and a half or two ounces of bread with a single cup of tea in the morning ; four ounces of animal food and two ounces of bread, with a small quantity of vegetables, and a little white wine for dinner ; and two ounces of bread with a single cup of tea in the evening. This will be sufficient ; but if he require any thing else, he may have a piece of bread before bed-time. He should masticate his

food slowly, and there should be an interval of four or five hours between any two meals. Very much will depend on the state of the weather. Be candid, and acknowledge to your patient the inefficacy of medicine without attention to diet.

Medicine, however, should not be entirely neglected. Keep the bowels open, and give occasionally small doses of calomel, or of blue pill, or of mercury with chalk, or of the grey oxide of mercury which is a preparation more neglected than it deserves to be.

As an aperient you may give cold-drawn castor oil or infusion of rhubarb with a little magnesia or carbonate of potass if there be any acidity; or infusion of senna with some bitter.

Regulate the clothes and the exercise.

The stiffness which remains is best remedied by friction; and sometimes the efficacy of friction is assisted by some warm liniment, such as turpentine with ammonia, or a solution of sulphate of zinc with tincture of opium. A warm plaster is very excellent: a quaker in the Borough sells one made of cobbler's wax, which is very beneficial. Bandaging is sometimes very serviceable.

Use friction of the affected part, and let the patient walk moderately. When the parts are very stiff, with some degree of pain, exercise will remove both these inconveniences; and this exercise may be of different kinds, active or passive. He may use light dumb-bells if the hands be affected; and here also exercise will be very useful if cautiously taken, and if the patient be careful to avoid being chilled after it. Pulleys are occasionally useful by way of exercise for creating motion in stiff parts.

The vapour bath is an admirable remedy in chronic rheumatism, and it will be better if you can blend with it a small quantity of sulphur.

Colchicum may be given in small doses at night: half a drachm of the tincture, or one drachm of the wine of the seeds, or five grains of the powdered bulb, will be a sufficient quantity.

In these means united there is an efficacy not to be obtained from either of them singly: and thus you will generally get rid of rheumatism; if the weather be cold, not rapidly, but sooner than might have been anticipated.

One point of very great importance to be observed is, that if the temperature be too high in a room the affection is very often aggravated, and the patient passes a restless night; and the same thing may happen from having too many bed-clothes. Light clothing is best, if you keep the temperature of the room about 60°.

In some cases of chronic rheumatism minute doses of Fowler's solu-

tion do much good ; two drops of the arsenical solution twice or three times a-day.

Another useful remedy is found in small doses of corrosive sublimate: one twenty-fourth part of a grain of oxymuriate of mercury in six ounces of infusion of red Jamaica sarsaparilla, twice a-day.

I have occasionally seen great benefit derived from mountain flax (*linum catharticum*): it seems to operate something like *colchicum*. I have known it succeed when other remedies have failed ; and I believe it might be introduced into the London Pharmacopœia with benefit. It is a very popular remedy among poor persons.

Other means are recommended ; and one remedy now very fashionable and popular in town is acupuncture. Heberden observes,—and it is the most sensible observation he ever made,—that all new remedies work miracles for a time. The powers of acupuncture, like those of every new remedy, have probably been much overrated ; but it deserves a fair trial if all other means fail. It has answered in many cases.

An exceedingly useful remedy is the application of a caustic issue, especially in sciatica.

A gentleman in the north of England told me that he had a complete cure for sciatica ; it was a family recipe, which had been handed down from time immemorial. He said he could not tell me what it was ; but if I would send him a patient whom I acknowledged to have failed to cure, he would cure him. I had then such a patient, with whom I waited on this gentleman, who applied his remedy, which was caustic potass, bound tight in a bag. He applied it to the skin, and tied a compress over it till it had formed an eschar. This dead portion of the skin he cut out with a razor, and put burnt alum and peas into the ulcer. A violent discharge was the consequence, with complete removal of the sciatica.

If I were the subject of sciatica, and other remedies failed, I would try this method. The issue should be made on the leg between the head of the fibula and the anterior spine of the tibia. This is a very old remedy, and is mentioned by Crotchius, and even by Hippocrates. These remedies are handed down in particular families after they have ceased to obtain the confidence of regular practitioners.

Lastly, when rheumatism has become obstinately established by a repetition of attacks sometimes a change of climate has exceedingly beneficial effects. But it should be your object first to give a fair trial to the remedies which I have mentioned ; and under such treatment I

believe chronic rheumatism will not be found so intractable as is generally imagined.

Be certain that the patient is attentive to your directions as to the regulation of the diet and drinks.

It is but too common to look for advantages from a change of residence or from plans difficult to be adopted; while more attainable, and yet equally effectual, measures, are neglected or but carelessly attended to at home.

Rheumatism is sometimes complicated with internal inflammation,—for instance, of the pericardium, from translation, as it is called; but acute inflammation far more frequently arises from the law of excitement operating on the weakest part. Such inflammation requires to be treated upon ordinary principles.

With respect to the prevention of rheumatism, it turns upon the avoidance of the predisposing and exciting occasions.

LECTURE XXXI.

COMMON INFLAMMATORY FEVER.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, AND
PATHOLOGY, OF GOUT.

I SHALL in this lecture make some remarks respecting gout, which is only a small part of an extensive class of diseases referrible to particular sympathy.

All savage nations have certain traditional histories, made up partly of truths and partly of fictions. And we, as is well known, have our histories made of the same materials. Gout affords an illustration of this remark; and I shall endeavour, by separating the facts of the case from the fictions, to give you the result of an impartial observation of the conditions comprehended under this term, and shall beg you to compare what I state with what you will see in practice.

The word gout, derived from *gutta*, like the term rheumatism, involves an hypothesis relating to a certain condition of the fluids. It is a very absurd term, comprehending partly an internal and partly an external affection. By the term gout is now generally meant some disease of the joints with indigestion, mixed up with vague symptoms set down by writers in dark ages, and only retained because men will not take the trouble of thinking for themselves.

PREDISPOSITION TO GOUT.

1. Gout, beyond dispute, deserves the name of an hereditary disease. To almost all the diseases which occur, except those arising from peculiar causes, there is a tendency in particular families. It has been said that a large head, broad chest and shoulders, strong bones, and thick, coarse, hard skin, evince a liability to gout; but I have seen it in many persons to whom quite an opposite description would apply.

2. It is more prevalent in males than in females; because the habits of females are upon the whole far more temperate than those of males: but we do sometimes see gout in females.

The Greek and Roman writers have noticed this subject, and also

the English, especially Sydenham and Heberden, who all state that gout does attack females whose habits are intemperate, especially if they have an hereditary tendency to the affection. I have seen several women the subjects of gout.

One of my first patients when I came to London was a lady who suffered from gout. She was quite a blue-stocking; not a pale blue, but a deep blue-stocking, and with very short petticoats! She was very fond of showing her profound learning, and when I visited her she would enter into all the theories of physic from the days of Hippocrates to the present time.

When gout occurs in females the habits have always been more or less irregular.

3. Gout very rarely appears before the age of puberty; which, perhaps, is to be attributed to the more strict attention which is paid to the diet up to that time. I have, however, attended a gentleman under the age of puberty with gout; and a pupil at this school last year told me that before the age of puberty he had an attack of gout.

Heberden, who had an extensive practice among the nobility, in which class gout is most prevalent, states that he never saw a case occurring before puberty.

4. The liability to gout, however, is sometimes acquired, and from those causes which directly or indirectly disturb the functions of the stomach, liver, and bowels.

The tendency to gout is found most remarkably in persons in whom there is acidity in the stomach. This was pointed out by Cheyne, an old writer on the subject.

Those who take acescent drinks, or the materials from which acescent matter may be formed, are very liable to gout. This may have led to the old idea with respect to the state of the fluids: the morbid secretions and excretions would lead to the notion that "a drop" tainted the whole mass of the fluids. Most probably the blood does undergo some change, which in the present confined state of our knowledge we are incapable of detecting.

Sydenham observes that gout occurs far more frequently among the rich than among the poor. But sometimes gout attacks poor persons too, especially in those countries where much cyder is drunk by the poor.

It occurs, also, in savage life. It was remarked by Rush that the American Indians, who drink new rum, are very subject to it.

Sydenham observes further, that more wise men than fools are attacked by gout; which is very likely, for wise men sustain much more

anxiety of mind than fools. Their aspirations after knowledge, fame, power, &c., expose them to more vexation, anxiety, and other mental disturbances, than those dull beings whose thoughts never leave their own immediate atmosphere. And those mental emotions dispose to affections of the stomach, liver, and bowels, which lay the foundation of gout.

Previous attacks of gout leave a tendency, deeper in proportion to their number, to its return. Every attack of the inflammation renders the part weaker, and more disposed to be affected again in the same way.

Many consider this complaint as salutary, because they observe that their health is better than usual for some time after a fit of gout. The reason of this is obvious. It is because at this time the diet is regulated, and the depraved state of the secretions is attended to. The same circumstance occurs after many other diseases. The opinion that gout is salutary is very suitable to those individuals who are fond of good living; but the best test of the validity of this notion is the custom of the assurance companies. Most men are more careful of their money than of their health. At the assurance offices a higher rate of premium is always required if the person whose life is to be insured be subject to gout; for it is full well known to be a disease which tends to shorten human life. What we wish we are apt to hope, and what we hope we are prone to believe; but in the teeth of all opinions I maintain that gout does not conduce to longevity.

There are two sorts of persons who are predisposed to gout, and both of these are plethoric.

In the one there is what the Greeks called *πλεθρα*; marked by a roundness of pulse, a large proportion of crassamentum in the blood when drawn from a vein, and all the marks of general fulness.

The other class have a local plethora; an over-accumulation of blood about the liver for instance, while in other parts of the body there is a deficiency of blood.

THE REMOTE OCCASIONS OF GOUT

are very various.

1. One of the most common is some error in the quantity or in the quality of the diet or drinks, as is well known to gouty persons. A person who dines out and gets a good dinner now and then, soon finds the reason why he has a fit of gout. Some persons will eat of a great variety of dishes at dinner, and take several glasses of wine of different

kinds ; and it is not surprising that, when this has been done repeatedly, an attack of gout should occur, especially if there be an hereditary or acquired predisposition to it.

I have already alluded to the very correct observation of Cheyne, that gout is very often connected with acidity of the *primæ viæ*. Hard porter, or sour cyder, and other acid fermented liquors, produce it. Very few old individuals who drink spirits (with the exception of rum) are liable to gout ; but those are more often attacked by it who drink either sour porter or cyder, or new or sour wine.

Some time ago I saw an old man whose health I found was completely broken up by repeated attacks of gout. I gave him strict directions about the regulation of his diet and drinks, which he followed. I sent him to Harrogate to drink the waters and use the baths. He came home perfectly recovered, and has remained free from attacks of gout by caution.

The main point of prevention turns upon the regulation of the diet and drinks.

2. Cold sometimes is the exciting occasion ; but more frequently the alternations of heat and cold, and especially a raw, thick, stagnant atmosphere.

Gout occurs less in summer than in winter ; but if the surface be chilled, so that the blood retires to the internal parts of the body, an attack of gout may be the consequence at any time.

3. Mental disturbance may be the occasion : a highly depressing emotion of mind, for instance, will excite it, and so also will highly stimulating emotions of the mind, because they influence the digestion. They operate first on the nervous system, and then on the stomach, liver, and bowels. The depressing emotions act on the whole body directly, and produce exhaustion : they lead to a pallid skin, and disorder or disease of the stomach, liver, or bowels. The exciting emotions also operate directly ; and the exhaustion is the consequence of the previous stimulation. They stimulate the heart's action through the nervous system, and create a state of general excitement ; and the consequence is an attack of inflammation in the predisposed part. Hence gouty persons should regulate the degree and extent of their occupations and amusements as far as possible. Yet you should take care lest the individual become excessively hipped from want of employment. No individual of intelligence can be happy without employment ; for if the mind be worried for want of occupation, the consequence of this state of ennui is that the stomach, liver, and bowels, become disordered, and the diet and drinks disagree, and produce acidity, &c.

4. Venery is in some way often connected with gout.

The Greeks had an opinion that Bacchus was the father, and Venus the mother, of gout. One of our modern poets says—

“ Immortal man is like a shuttlecock;
And wine and women are the battledoors
Which keep him moving.”

And truly they do keep him moving briskly for the time; but between the two he is very likely soon to fall to the ground and get crippled. Wine stimulates in the first instance, but afterwards, by disordering the stomach, indirectly depresses the strength; and nothing disturbs the whole nervous system more than the collapse from excessive sexual indulgence.

5. Another remote occasion may be the excess or the relinquishment of customary exertions, whether physical or mental. There is no blessing so great as constant employment: those men who have nothing to do are generally miserable, or at all events far less happy than those who are constantly in action. Indeed, it has been said that the three exciting causes of gout are indolence, intemperance, and vexation. It is very necessary to attend to the bodily exercise; for if it be deficient or excessive, the stomach, liver, and bowels, are apt to be affected; though there is far more danger from a deficiency than from an excess of exertion. I know one physician who used to say a man who wished to avoid gout should live upon a shilling a day and work hard for it. Occupation or action may almost be considered synonymous with happiness; but he approaches nearest to the attainment of this often sought but rarely found state, whose time is occupied in endeavouring to make those around him happy.

“ How various his employments whom the world
Calls idle, and who justly, in return,
Esteems that busy world an idler too.”

6. The suppression of accustomed discharges, as from piles, or the catamenia, the arrest of periodical bleeding from the nose, or drying up a seton or issue, will bring on an attack of gout.

7. Copious evacuations have sometimes occasioned a fit of gout, such as copious blood-letting, or profuse purging, which first create debility, which is followed by excitement.

8. Constipation is a very common source of an attack of gout. Most individuals have the bowels confined before the fit comes on. If the colon be excessively surcharged with fæces, it tends very much to

break up the general health and to produce those diseases which arise out of general debility. Lastly,

9. Gout may arise from any local injury, such as wearing a tight shoe, a blow on the foot or toe, or walking on a rough road. Any thing which creates local irritation will excite in predisposed persons inflammation which puts on the gouty character, while in others it may have the common inflammatory character.

I have already explained to you that inflammation from common occasions has a common character, and that inflammation from peculiar occasions has a peculiar character. The constitution also of the patient powerfully influences the character of inflammation, as is evident in gout. The external affection is a consequent, or sympathetic inflammation, mostly seated in the structure adjacent to the joints. And what would you guess to be the internal affection? It is no other than our old enemy with a new name—"irritation of the mucous membrane of the intestinal canal."

Gout, then, may be defined to be an inflammation seated about some of the joints, preceded and attended by disorder of the stomach, liver, or bowels.

Fever may be present or it may be absent. When the inflammation which thus arises in gout has an acute or sub-acute character, and when the irritation of the mucous membrane of the intestinal canal is considerable, it induces fever; the skin is hot, and the pulse quick. When it is chronic, and the irritation of the mucous membrane is less in degree, there is no fever present.

The foundation of gout is laid,—1. In the stomach; 2. In the liver; 3. In the small intestines; 4. In the large intestines; and 5. In the skin. The disorder in the stomach, liver, and bowels, may be primary, from remote occasions which influence these organs directly; or it may be secondary, and dependent on some affection of the brain, or other parts of the nervous system: but the affection of the stomach, liver, or bowels, is necessary for the production of gout, and invariably precedes and attends it.

There seems to be a series of sympathies between the stomach, liver, and bowels; so that in one gouty individual you will find the stomach the main seat of the disorder, as indicated by redness of the tip of the tongue, and uneasiness in the region of the stomach; in another the liver, as manifested by uneasiness in the right hypochondrium, deficient or depraved secretion of bile, and torpor of the colon; in a third, the bowels, as proved by the appearance of the tongue, and uneasiness in the

course of the intestinal canal; and in a fourth you will have proofs of disorder in all these parts simultaneously.

That disorder or internal irritation comprehends two conditions. In its lowest degree it may be simple excitement; in its highest degree it may be, and very often is, actual inflammation, acute, sub-acute, or chronic. It often is of the sub-acute kind in the stomach and liver, and then you almost always have acidity. You may merely have a torpid state of the colon, and a retention of scybala in it. The colon may not be in fault, and the liver may be torpid or the seat of an obscure degree of inflammation.

It happens in individuals who have had disorder in the stomach, liver, or bowels, that they have a liability to sympathetic pains in different parts of the body, as the head, chest, bowels, &c. This is a pathological law which has a most extensive application:—that when irritation of the mucous membrane of the intestinal canal exists, inflammation arises in some external structure; and it appears to me that there is nothing more remarkable in the sympathetic inflammation which arises in the great toe, than in that which occurs at the end of the nose. Many a man is ashamed of the end of his nose being red who cannot help it. If you ask me how this inflammation arises sympathetically, I answer I do not know. The fact is certain; and the uncertainty of what we are ignorant of does not affect the certainty of that which we do know.

The word gout was vaguely used by medical writers in the dark ages, and the same term is now as vaguely used by those who have chosen to surrender their judgment to them. But appeal from the theories and opinions of men who lived in ages favourable to prejudice and error to the volume of nature which is opened before you, and no such mystery will be found as some have imagined. Take no man's opinion for granted; examine whether it be correct; and dare to think and act for yourselves. No man who has not sufficient fortitude to use his own senses, and exercise his own reasoning faculties, is fit to be a medical practitioner.

To return:—when the stomach, liver, or bowels, are affected, sympathetic pains arise in all structures, and in different parts of the body, and these are generally inflammatory pains. They may occur in a man's great toe, and they may occur in the end of his nose. Or the inflammation may attack the eye; or the arm, in the form of a boil; or, in short, it may attack in turn every internal and external structure.

Medical writers have called gout regular, or irregular.

REGULAR GOUT.

In regular gout there is merely proof of a disorder of the stomach, liver, or bowels, without any sign of any internal inflammation. You have, for instance, inflammation about the great toe. Trace the case backward, and you will find that previously the tongue was furred; that the patient complained of flatulence or acidity; that his mind was depressed; his temper fretful; that the bowels were irregular; the stools unnatural; the urine scanty, and depositing a pink sediment; and that he had, in short, all the symptoms of what is called dyspepsia. After a time comes on the external inflammation, assuming the acute or sub-acute character accompanied by fever, or the chronic character without fever.

The great toe in almost all cases is the part affected in the first attack of gout. In some, however, the part first attacked is the chest, in others the head, in others the bowels, in others the nose.

I saw a gentleman whose first attack occurred in one of the fingers.

We do not know why it is, but so it is; and it cannot be said to be peculiar.

The pain is in general most severe, and the fever highest at night. The patient has increments and abatements of the fever and the pain; and these going on for ten or twelve days make up what is called a paroxysm or fit of the gout.

The duration varies, being generally shorter in young and strong than in weak and old subjects.

After several attacks the duration is longer. After such an attack there is an interval, and the length of this interval before the next fit occurs varies very much, and depends on the mode in which the patient lives, and on the state of his mind. A second attack, perhaps, will occur in one or two years. The future paroxysms occur more frequently, because the predisposition both in the internal mucous membranes and in the toe is fixed and increased by each attack; a delicacy is acquired, rendering the patient more prone to the disease. The subsequent attacks are generally not confined to the toe, but affect similar structures in all parts of the body, as the heel, the ligaments, the bursæ, the wrists, the elbows, the ankles, the knees; and there is nothing peculiar in this.

Subsequent attacks generally produce enlargements; they leave the part more swelled, and painful, and stiff, than the first attack did; and in some individuals chalk-stones are formed, which are morbid secretions, generally consisting of urate of soda; but from the experiments of the

French chemists, it appears that their chemical characters are various. They at first appear gelatinous; then the thinner parts being absorbed, the concrete part which remains assumes the appearance of chalk. They are the product of inflammation.

I once saw a gouty gentleman who had chalk-stones about his ears. Those who have not inflammation of the toe are liable to these depositions which Sydenham called crab's-eyes. In the first volume of Medical Communications, Mr. Watson mentions that a gouty gentleman used frequently, when he played at cards, to score up the game with his knuckles. Gouty persons are very liable to stone in the kidney. Whenever that state of the stomach, liver, and bowels exists, which produces gout, there is also a tendency to a similar deposition of earthy matter in the heart, arteries, &c. And you might as well make the formation of stone peculiar, as the deposition of chalk-stones in gout.

The return of gout is certain if the individual be not attentive to his manner of living; but it is not necessary.

The late Dr. Gregory, of Edinburgh, was very gouty, and died in a fit of gout. The present Dr. Gregory had an attack of gout in early life, in consequence of which he determined to adopt a regular and abstemious system of diet; and he had felt no return of gout when I left Edinburgh in 1807, although he was then an old man.

I have known many such cases. And even where the return of the fit is not altogether prevented, many persons have it mitigated by a moderate degree of care, by very temperate habits, plain diet, the avoidance of fermented acid liquors, and regular exercise in the open air. Of course it will be prudent to take into account the previous habits, from which it is never safe to deviate very considerably and suddenly.

I know a gentleman of very splendid intellect who has taken all kinds of medicines to ease the pain of gout, but he has never once thought seriously of preventing it. He suffers the most excruciating pain, and instead of making use of his limbs, is obliged to be wheeled about in a chair, an object of pity to some, and of ridicule to others; and all this that he may eat good dinners and drink champaign! He once assured me that his diet was strictly regulated according to my directions. But one morning I was sent for into the country, and calling upon him at an unusual hour I popped in quite unexpectedly, and found him sitting alone at breakfast, with all sorts of dainties upon the table, and when I hinted that dried meats, eggs, ham, tongue, and other things then before him were not included in my directions, he gravely told me that he

only had these things brought on the table to look at! And in this way medical men are very often deceived by persons who are fond of good living.

Now your business is to cure or prevent diseases, rather than to please; and it is your duty to tell a nobleman as you would a pauper, that if he will not adhere to the rules you lay down for him, he must not expect to prevent the recurrence of disease. You are not to give in to men's caprices, but are to keep yourselves independent; and having given instructions, you have a right to expect the most implicit obedience to them.

I was once talking about the regulation of his diet to an individual, who told me that happiness consisted in three things: 1. Good eating and drinking; 2. Active benevolence; 3. Literary and scientific pursuits. The last two are very allowable; but with respect to the first, it should be duly regulated by all individuals who expect to remain free from gout after having had one attack. I have sometimes been disgusted by seeing an intelligent being allow himself to suffer attack after attack till he has become a perfect cripple, always accepting the present enjoyment without considering the future consequences.

One gentleman whom I know makes preparations for the gout; gets his easy chair, vapour bath, and all other means to alleviate the attack. He then dines out. He thus commences offensive operations, and retires from the contest more crippled than ever; and thus I believe he will go on all his life.

IRREGULAR GOUT

is sometimes combined with internal inflammation; often with slight inflammation of the mucous membranes of the stomach or bowels. The old writers knew nothing of inflammation of the mucous membranes, and of the extensive connexion between that condition and various external and obvious symptoms. Dr. Cullen's definitions, as they are called, do not deserve that name: they are merely heads of symptoms without any reference to pathology.

There is nothing anomalous and peculiar about irregular gout; it is a term often applied to cases in which there is a palpable internal inflammation; and this inflammation arises, as in rheumatism, either from general excitement or from translation.

When internal inflammation does arise in gout, it rarely arises from translation, but frequently from a common law. Inflammation, as I have repeatedly explained, arises either, 1. From depression; 2. From

stimulation; or, 3. Through irritation. And when local irritation sets up fever, can you be surprised that inflammation should attack different structures, especially if you take into account the irregular mode of living which gouty persons adopt?

But if inflammation arise in gouty habits all principles of common sense are abandoned; and if the brain be affected persons talk of gout in the head. Is it surprising that a person who gorges himself daily, taking stimulating diet and strong drinks, should have an attack of apoplexy? If another individual subject to gout have a pain in his stomach or bowels it is called gout in the stomach or in the bowels. But why shroud their ignorance thus? Why not acknowledge that they know nothing about it? What is it? No explanation is given; but if it be investigated by common sense it will be found to be spasm or inflammation; and if inflammation, it will often arise from some irritating ingesta.

A gentleman who has gout in his toe, loads his stomach with indigestible food, and suddenly dies of what nosological practitioners call gout in the stomach; and frequently on examining the body you find the colon overloaded with scybala, and the stomach inflamed.

It is mortifying to see persons satisfied with giving a mere name to a disease, that name probably not only failing to express, but concealing from themselves their own ignorance, of the pathological principles upon which the symptoms depend.

Put out the idle conjecture of gout being a specific affection, and you can refer the inflammation invariably to a common agent.

If palpitation occur, medical men set it down as gout in the heart; forgetting that, living as gouty persons do, constantly taking quantities of things to eat and drink which irritate the mucous membrane of the intestinal canal, and which are the most common source of palpitations, it is no wonder that this symptom should occur, which it often does in persons who never have gout.

Again, if lowness of spirits occur it is referred to gout; and if an attack of gout comes on the depression is got rid of. But this is an ordinary law of fever, that it has first a stage of depression, and secondly a stage of excitement, which comes on when the depression is removed. Surely there is nothing peculiar in that.

With respect to the formation of stones, there is nothing peculiar in that. It has been said that they are invariably composed of urate of soda, which is not true; for sometimes they consist of urate of lime, and sometimes of phosphate of lime with animal matter. They occur, too, in individuals who have never had the gout, as I have seen, and

Dr. Sutton has recorded an example of its occurrence. It is no more surprising than the effusion of serum, or of lymph, or of pus, in common inflammation; or the formation of stones in the kidneys and bladder; or the deposition of earthy matter in the coats of arteries. There is nothing peculiar in the matter except that some old and modern authors have abandoned common sense for prejudices; and the best of the joke is, that writers on the subject of gout say nothing of the pathology, nothing of the irritation of the mucous membrane of the intestinal canal; in fact, they give us nothing but idle conjectures. The only mode of explaining the facts is by reference to principles, to apply them to the solution and explanation of all their difficulties and apparent anomalies. It is far better to do this and to confess our ignorance when it exists, than to harbour vague speculations which have no foundation in reality.

Irregular gout generally arises from the common law of general excitement operating upon the weak part, and producing acute or sub-acute inflammation, mostly of the liver and of the mucous membrane of the stomach or bowels, and occasionally of the brain. Translation occurs far more frequently in rheumatism than in gout. How these translations take place we know not, probably by some irregular distribution of the nervous fluid or influence; and they certainly occur almost invariably in connexion with irregular distribution of the animal heat. This, then, is nothing peculiar.

What is called

TRANSLATED GOUT

is this. A person labouring under inflammation of the great toe will be suddenly seized with a violent inflammation of some internal organ, while the external affection of the toe will as suddenly subside. There is a diminution of the heat of the toe, and an over-accumulation of heat in the part which is then attacked. And this has led both old and modern writers to suppose there was a distinct something, which they term a gouty diathesis. But what is this something? Is it a goblin dancing about the body? It is a phantom, a medical phantom, which haunts schools and colleges, and entering the closets of big-wigs plays all sorts of pranks in their imaginations. It is mere nonsense, stuff such as dreams are made of.

Irregularities in the distribution of the circulation and nervous influence are almost invariably connected with some morbid condition of the mucous membrane of the intestinal canal. But you must remember that translations occur in other affections.

Another variety is called

ATONIC GOUT,

a word which means any thing or nothing. Many persons liable to gout have disorder of the stomach, liver, or bowels, attended by a mild degree of congestion about the liver, heart, or head. If the congestion be extreme it may arrest the heart's action, and destroy the patient suddenly. In these cases of sudden death the individual is said to die of gout; but you will sometimes find that the stomach has been so disordered by crude indigestible food as to suspend the heart's action. More commonly there is an intermediate degree of chronic congestion. A person liable to gout goes about in a thick, stagnant, atmosphere with all the indications of that state—a deficiency of blood externally, and an over-accumulation in the internal parts of the body. He has a blanched conjunctiva, a pallid face, obscure uneasiness in the head, oppression at the chest, a white furred tongue, a sense of weight at the region of the stomach, an oppressed pulse, a deficiency of bile in the stools, and general prostration of strength. He tells you that if he had an attack of gout he should get rid of these uneasy sensations, and he longs for the fit to come on. True; this is the mode in which nature affects the removal of this state: the oppression is relieved by reaction, and not because there is any thing peculiar in gout. This they call suppressed gout. You treat it by the tepid bath; you put the stomach, liver, and bowels, in a good state, and the patient may get well without an attack of gout. On the other hand, if you do not interfere he may die of apoplexy: or he may be excited, and the brain being the weak part may be affected by inflammation; and all this would by nosologists be called gout. If we appeal, however, to facts, we shall have no reason to conclude that there is any thing peculiar in gout.

And what say the dissections? Morgagni and De Haen assert that on dissection there are proofs of congestion or inflammation. In general, however, congestion does not altogether arrest but only interrupts the heart's action. Hence occur palpitations which disappear when an attack of gout arises. These palpitations are, therefore, said to be suppressed gout!

Irregular gout, then, is—

1. Inflammation, generally arising from excitement, sometimes from translation.

2. It is spasmodic. An overloaded state of the colon exists, and spasms of the stomach and bowels come on, with external inflammation,

in the toe for instance. This again is all put under one head, namely, gout, because the person happens to have colic with gout. And—

3. Irregular gout is congestive.

Gout sometimes terminates as an acute or sub-acute internal inflammation. Sometimes the patient expires suddenly from the state of the stomach suspending the heart's action.

Generally the inflammation which occurs internally is sub-acute.

With regard to the sequelæ of gout: the ligaments, the bursæ, and the tendons, are the seat of the external affection, and they become chronically inflamed and thickened. Sometimes the inflammation attacks the synovial membranes and cartilages, which become eroded, and eventually ankylosis takes place. In some cases chalk-stones are deposited, and the veins about the part which has been affected are varicose. These are the changes which occur in the more external system, and other morbid appearances will be found internally. In some cases organic affections of the mucous membrane of the stomach occur; in others, diseases of the heart; in others, alterations of the texture of the kidneys, winding up in some instances with dropsy; all of which conditions occur in individuals who have lived temperately and have never had gout.

This account of gout differs, I am aware, from that generally contained in books, and you will remember what I have so often repeated, that you are never to take any thing for granted, but to reflect. The great mistake of systematic writers on medicine in this country is that they use names without any reference to things. But it is necessary for you to know something about things, to trace effects to their causes. This object is of too serious importance to be neglected. Gibbon says there are two kinds of education; one which we receive from others, and one which we seek and obtain for ourselves: and I believe that no individual will be distinguished in the medical profession who does not educate himself at the bed-side of the sick, which is the proper, and the only proper, place for a man to learn some of the wonders of nature,

LECTURE XXXII.

COMMON INFLAMMATORY FEVER.

DIAGNOSIS, TREATMENT, AND PREVENTION OF GOUT.

IN the last lecture I described the origin and symptoms of gout, and the conditions upon which these symptoms depend ; and I shall next consider the—

DIAGNOSIS OF GOUT.

You might confound it with rheumatism, as the old practitioners did ; and it will be well to attend to the following circumstances which may serve to distinguish them.

1. Gout scarcely ever occurs before the age of puberty. Rheumatism often attacks individuals at an earlier period of life. I have seen it at five years of age. My eldest boy had two or three attacks before he was twelve years old. But rheumatism also more frequently occurs after puberty.

2. Gout is invariably preceded and attended by disorder of the liver or some part of the mucous membrane of the alimentary canal, which is a primary or concurring cause, essential to its existence, and standing with respect to gout in the relation of cause to that of effect. It is this which occasions the fidgets and ill-temper which occur before the gout comes on ; and you may recollect that persons will often be depressed, or ill-natured, and irritable from the same cause without having gout. Such disorder generally does not precede ; or is only an accidental circumstance in, rheumatism, which may generally be traced to the influence of cold. Gout, then, can be traced as a sympathetic effect of disorder of the mucous membrane of the intestinal canal, since it always precedes and accompanies it ; while rheumatism almost invariably arises from, and can be referred to, the influence of a low or variable temperature.

3. Gout seizes the great toe in the first attack in most instances, or some of the small joints ; while rheumatism almost invariably attacks the other and larger joints.

4. The inflammation in gout is denoted by a vivid, smooth, red, shining appearance ; the part is very tender, and swells rapidly. In rheumatism the part does not swell so rapidly, nor to so great an extent ; there is not so much redness and shining.

5. In gout the pain is generally sharp and burning. In rheumatism, when the patient is at rest, there is a comparatively numb, aching, gnawing, pain. I have known many individuals, liable to both gout and rheumatism, who could readily distinguish the pain of one from that of the other affection.

6. In acute and sub-acute gout the fever is less ardent than in rheumatism, because the mucous membranes are the seat of the internal irritation ; and inflammation of the mucous membranes is never connected with so high a degree of fever as inflammation of the serous or fibrous membranes.

7. In gout the remissions from pain and fever are most distinct. In rheumatism the fever is more ardent and continued.

8. In gout the temper is much more affected than in rheumatism ; it is either extremely irritable, or the spirits are depressed.

9. In chronic gout there is more swelling about the joints than in chronic rheumatism ; and you have at the same time proofs of irritation of the mucous membrane of the alimentary canal.

10. The anatomical character of gouty inflammation is different from that of rheumatism. It is more varied in its seat, attacking especially the tendons and ligaments, the serous and cellular membranes, and the true skin. The inflammation in rheumatism is far more limited.

11. Gouty depositions do not take place in rheumatic inflammation.

Sometimes, as I stated in my last lecture, individuals have attacks of gout and rheumatism at the same time ; and this combination is termed rheumatic gout.

THE TREATMENT OF GOUT

involves two points, prevention and cure. It includes the consideration of the proper measures for the relief of the fit when it occurs, but by far the most important object is to prevent its return.

If you see it in a young man, it is your business to lay down for him rules of temperance and exercise.

If he be far advanced in life, you must take into account his habits, and not at once abstract all the stimulants to which he has been accustomed. But you should abstract all fermented and acescent drinks and allow him a little brandy as a substitute for wine, and be very careful about the regulation of the diet.

You will remember that I have noticed, with respect to gout, that it is—1. Acute; 2. Sub-acute; 3. Chronic: that its pathology is—1. External; 2. Internal: that the external inflammation is sympathetic, arising invariably from a primary irritation of some part of the alimentary canal: and that it seems a law in the animal economy most extensive in its application, that inflammation in many external and internal parts arises often secondarily from excitement, or irritation, or inflammation of the mucous membrane of the intestinal canal, associated most frequently with torpor of the liver and of the colon.

TREATMENT OF ACUTE REGULAR GOUT.

When acute gout occurs in the regular form; suppose its external pathology be inflammation, and its internal pathology local simple excitement with torpor of the liver and colon, which is the most frequent form in young and robust subjects; you will find most material benefit from blood-letting,—local if the pain be slight, general if the pain be more ardent. This plan may be adopted in the first attack; but in old subjects you should be very cautious in abstracting blood: and then a mild aperient with an alterative is the best thing; for instance, a grain and a half of calomel with five, six, or eight grains of rhubarb in the morning, followed in two or three hours afterwards by two drachms of castor oil, or, if this produce sickness, by a draught containing a drachm of sulphate of magnesia in an ounce of compound infusion of senna, with a few grains of calcined magnesia. And you may prescribe half a drachm, or if the patient be strong one drachm, of tincture of colchicum at night, or an equivalent dose of the wine of the seeds or of the powdered bulb. This will almost invariably shorten the attack of gout, provided the diet be bland and the patient be kept in a state of absolute rest.

If there be much fever the diet should be farinaceous, and the best form of this is arrow root, or gruel made of groats which should be procured in small quantities at a time.

The patient should leave off all acescent fruits, such as apples, &c., by which a fit of gout is very often protracted. When you see improper things lying about in a sick room always desire that they may immediately be removed, notwithstanding that patients will tell you they only have them to look at.

Some individuals use cold water as an external application.

It is said that Harvey, the discoverer of the circulation of the blood, was accustomed when he had the gout to plunge his foot into cold water.

I have known other individuals do this with benefit. But you should be cautious in the use of cold water, which is by no means safe. It has often occasioned internal inflammation: and there is great risk that the foot being chilled the whole surface may be similarly affected; and this being followed by violent excitement, inflammation may arise in any organ which happens to be predisposed. It is a remarkable fact, to which I have before adverted, that if the temperature of one inflamed part be suddenly and materially diminished, inflammation is most likely to leave this and attack some other part.

I think the best application to the toe is a single fold of cloth wet with a mixture of spirits of wine and water, which should be tepid so as not to chill the part.

TREATMENT OF SUB-ACUTE REGULAR GOUT.

By the same means, only applied in a different degree, you will remove the sub-acute form of gout, when its external pathology is inflammation, and its internal pathology is local simple excitement.

TREATMENT OF CHRONIC REGULAR GOUT.

In chronic gout fever is absent; and when it has occurred attack after attack, the strength is in some degree broken up. The best measures then are the following:—

1. The use of the vapour bath. Nothing shortens the attack so rapidly as the vapour bath used to produce a gentle and general perspiration. It is of very considerable advantage in these cases to regulate the function of the skin.

2. If the tongue be red at the tip and edges, the application of leeches to the epigastrium is of great benefit.

3. Mild aperients will be necessary to keep the bowels regular; for instance, rhubarb and a little carbonate of magnesia, soda, or potass, in aromatic water.

4. An occasional alterative may be given; for instance, a moderate dose of calomel, blue pill, or mercury with chalk.

5. Administer hyoscyamus with colchicum at night.

6. The treatment of chronic gout turns principally on the regulation of the diet. When there is no fever the diet may consist of at least one meal of animal food in the day. The patient may take two or three ounces of stale bread with one cup of tea in the morning, a little roast mutton or chicken with two ounces of bread at noon, and in the evening a little bread with one cup of tea. If the bread should dis-

agree, biscuit may be substituted. It is better to avoid vegetables at dinner. Nothing should be taken at night by way of supper.

If any stiffness be left it is best remedied by friction gradually increased, and above all by using the limb.

The old authors speak highly of blistering ; but the best mode of preventing the stiffness of the joints is by preventing the return of the gout, which may be accomplished in ninety-nine cases out of one hundred.

These modes of treatment will suffice in a large majority of cases of regular gout.

Irregular gout is a creation of the mind ; there is no such thing in nature. All the anomalous symptoms which pass under this name are distinctly referrible to, and explicable upon, the common principles of pathology and common sense.

TREATMENT OF INFLAMMATORY GOUT.

When the inflammation is internal the treatment depends upon general principles.

Dr. Clarke, of Newcastle-upon-Tyne, a man of very accurate observation, who has been very successful in the treatment of irregular gout, states, that in fatal cases he has always found internal inflammation, and his success depended upon the application of the ordinary principles of physic.

You must, then, investigate the symptoms carefully, and ascertain whether inflammation be present, and be guided in the treatment by its seat, its degree, and the constitution of the patient.

In a young person, if the inflammation be acute you need have no dread of copious blood-letting, or of moderate blood-letting if it be sub-acute.

TREATMENT OF TRANSLATED GOUT.

In what is called translated gout, blisters applied on the surface where the inflammation was previously seated will be found useful ; and bleeding, if the inflammation be urgent.

TREATMENT OF SPASMODIC GOUT.

In cases of spasmodic gout your object should be to ascertain the conditions upon which it depends.

A foul tongue and spasmodic affection of the colon from accumulation of fæces are often precursors of inflammation.

Spasmodic pains are generally relieved, and inflammatory pains aggravated, by pressure. In inflammation, too, the skin is hotter and the pulse quicker than natural.

Sometimes the spasmodic pain arises from the passage of gall-stones; and this is often called gout.

TREATMENT OF CONGESTIVE GOUT.

If the patient be the subject of congestion, treat it according to its degree, as I before described.

If the heart's action be oppressed from offending ingesta it will be right to give an emetic; and if this should fail to produce excitement or reaction, use the hot air bath and administer full doses of brandy with moderate doses of opium. If there be marks of slight inflammation, then opium must be given without brandy. If the colon be surcharged an aperient should be exhibited.

This treatment will be proper in the extreme form.

When there is an intermediate degree of congestion the patient will have the symptoms which I have already described as characteristic of that condition. If the pulse be oppressed, blood-letting is often of great service; but you should bleed cautiously. Sometimes you will find a blister very beneficial.

In what is called gout in the stomach, if you investigate the case, you will frequently find the stomach loaded with crude indigestible food, with flatulence, and acidity about the epigastrium; and if the skin be cool and the pulse slow, nothing relieves this so rapidly as brandy. If there be inflammation you will have all the symptoms of that condition, and the case must be treated accordingly.

Pain in the bowels, often called gout in the bowels, sometimes depends upon food fermenting and corrupting in the bowels, having passed from the stomach without being digested. In these cases, castor oil followed by an opiate will generally remove the affection. Sometimes the pain (as I have before stated) is connected with a surcharged condition of the colon, and will be removed by aperients. And sometimes it depends upon inflammation, requiring to be treated upon the common principles which I have so often mentioned.

If, in fact, you investigate all the symptoms which are placed to the account of the gouty diathesis, you will find that they are all explicable

upon the principles of common sense, without the necessity of referring to any peculiarity in gout, which is purely imaginary.

A friend of mine, the late Mr. Charles Haden, was very successful in the removal of gout and rheumatism ; and he adopted the following very simple plans. When there was no internal inflammation he adopted the same plan in both, if the patient were robust. He gave three grains of calomel and eight grains of colchicum at first ; and then five grains of the powdered bulb of colchicum every four hours for two days, and as much infusion of senna and sulphate of magnesia as would determine to the bowels. The first day he found the pulse slower, the heat of the skin lessened, and the inflammation abated, without much purging, with little urine, and generally moderate sweating. On the second day he found a good deal of purging, and the fever and inflammation in most cases quite gone. At the same time he kept his patients at rest upon a bland diet.

Another friend of mine has employed colchicum more largely with the same general effect.

I do not, however, venture, for the reasons I have already stated, to give it so largely. I generally give three grains or five grains of the powdered bulb four times a day. Commonly I purge the patient in the morning, and give the wine or the tincture of colchicum at night.

When these means fail, the external and internal use of sulphureous waters, especially those of Harrogate, will be found very beneficial. Bark seems to have a power of preventing the return of gout and of rheumatism ; and after a fit of either of these complaints a strong infusion or decoction of bark will be of service. But with regard to the prevention of gout (which is by far the most important part of the treatment), it includes several particulars, the chief of which are the following :—

1. The regulation of the diet, of which the quality should be simple and the quantity moderate.
2. The regulation of the drinks, avoiding all fermented and acid drinks.
3. The regulation of the exercise, which should be taken in the open air ; and—
4. Of the sleep, which should be taken early and in sufficient quantity. Night-watching ought to be avoided, for nothing seems to have greater influence in retarding the secretions of the liver and rendering the colon inactive as loss of sleep. Individuals who sit up at night have torpid liver and colon ; and attacks of gout are almost invariably preceded by constipation.

It comprehends also—

5. The mental management, by which all occasions likely to disturb the mind should as far as is practicable be avoided.

6. The avoidance of copious evacuations by bleeding or purging ought to be avoided ; for if profuse they disturb the nervous system and occasion disorder of the stomach, liver, and bowels. I knew a young lady who was liable to attacks of menorrhagia from mental anxiety. Born of a gouty stock, she became very weak ; the stomach, liver, and bowels became torpid, and she had an attack of gout, notwithstanding the strict regulation of the diet. By all means, then, avoid any break up of the general strength ; for then the functions of the skin and mucous membranes invariably become disturbed.

It includes—

7. The avoidance of the suppression of long-established discharges, from piles, menorrhagia, &c., which, in predisposed persons, is frequently followed by gout, unless some other evacuation be substituted, or the quantity of the food be lessened and the bowels gently opened.

8. The avoidance of excessive venery.

9. The choice of atmosphere, which should be wholesome and fresh ; for instance, the air of the country is preferable to that of London.

The avoidance of a damp atmosphere is difficult, it is true, in England ; and the best plan is to prevent the influence of variations in the state of the atmosphere by using a shower-bath.

We all know that when the atmosphere is raw and cold, the strength is very often prostrate, and the stomach, liver, bowels, and skin, then often become disturbed.

10. The avoidance of any local injury, which very often brings on inflammation of the foot, disturbs the nervous system, and by occasioning disorder of the alimentary canal, terminates in an attack of gout.

11. The correction of acidity of the stomach by a combination of rhubarb, magnesia, and some aromatic.

12. The regulation of the bowels, which should be kept open by an occasional mild aperient ; and of the secretions of the liver, which should be kept healthy by an occasional alterative.

13. The regulation of the clothing, which should be warm. And—

14. Bathing daily in a tepid bath of salt water, the temperature of which should be reduced one degree every day, until it is as low as 60°.

Remember that, as the tendency to gout is very often hereditary, transmitted from parents to their offspring—more care will be required in such cases to avoid all the exciting occasions. It is surprising how difficult it is to get individuals to adopt any plan for the prevention of

gout. The English will cram themselves with physic every day if you will give in to their irregular habits. But though they will often attempt to deceive you with false accounts of their mode of living, yet it is clear from abundant proofs that nothing is so difficult to practise as self-denial. Hence this virtue should be exercised in early life; for habits established by long and frequent repetition are difficult to break through. Yet it is the business of every man to make his appetites subservient to reason and duty.

Do not, then, consider gout generally as a specific disease; for it depends upon common pathological states. But it is right that you should take into account idiosyncrasies, slight weaknesses, and other circumstances which may modify the treatment in particular cases.

LECTURE XXXIII.

COMMON INFLAMMATORY FEVER.

PREDISPOSING AND REMOTE OCCASIONS OF INFLAMMATION OF THE EYES.

OPHTHALMIA is a subject of great importance, and I shall at some length consider,—

First: the predisposition to and remote occasions of it;

Secondly: its symptoms and terminations; and—

Thirdly: its treatment.

The word Ophthalmia is a general term, implying several particulars. For example, if minutely examined, it relates to affections modified—

1. By the particular texture in which inflammation is seated.

No person can treat inflammation properly and successfully without taking into account the influence of structure; and the eye, in this respect, is a compound body.

2. By certain concurring states of the body.

These, also, should be considered in reference to the nature and treatment of any particular inflammation of the eye: and—

3. The remote occasion, also, has a material influence over the nature of the affection.

Some occasions are common, others are peculiar, and their effects require peculiar treatment.

THE PREDISPOSITION TO OPHTHALMIA

may be

I. HEREDITARY.

Many persons have an hereditary short-sightedness, which is depending on structure,—on a degree of prominence of the lucid cornea. It generally becomes most apparent about the age of puberty. This leads many persons to use a glass; and if this be thought of, two glasses

should always be employed, in the form of spectacles. A glass is, I must confess, a very dashing instrument, and perhaps in females its use may be excused, as they seem to have an instinctive inclination to such trifles; but men should have sufficient wisdom to see the folly of becoming blind for fashion's sake, and should not, on any account, use a single glass. For by this one eye is strengthened and the other weakened, so that the harmony between the two is disturbed, and at length the sight of one or both eyes may be lost.

It is notorious that naval captains who confine the use of the telescope to one eye are very subject to affections of these organs.

In many families where intermarriages have taken place between first cousins there is a strong tendency to affections of the head and eyes. The offspring of such families are very liable to some mental or physical defect. They become insane; they squint; they are short-sighted; they have amaurosis, &c. I have seen these and similar effects so often, that nothing should induce me to allow a daughter of mine to marry her first cousin.

Analagous physical results take place in the lower animals under similar circumstances.

Those who have a delicate soft skin and soft hair are, for the most part, liable to ophthalmia, especially of the tarsal glands and conjunctiva.

Those who are subject to rheumatic affections are very liable to inflammation seated especially about the iris and sclerotic coat.

The predisposition to ophthalmia, however, is more frequently—

II. ACQUIRED

than hereditary; and one of the most common sources of this tendency is—

1. Some error in the diet or drinks.

It is proverbial that drunkards have red eyes. "Who," inquires Solomon, "hath redness of eyes? They that tarry long at the wine; they that go to seek mixed wine." Persons who drink freely at night find their eyes very gummy in the morning; and if these large potations be frequently repeated, the tarsal glands especially will become affected.

Some persons acquire a tendency to, and lay the foundation of, chronic ophthalmia from using too varied a diet; as, for instance, taking at the first part of a meal broth containing a variety of vegetables, then hashes, with sweets, besides fish and solid meat, and after dinner a dessert.

Whatever breaks up the general strength affects especially the conjunctiva of the eye, the tarsal glands, the skin, the internal mucous membranes, and the glandular system. Therefore you should be cautious of performing any operation on the eye when there is any affection of the stomach, liver, or bowels.

2. Weather predisposes to ophthalmia.

In warm moist weather, but especially in cold moist weather such as often occurs in November, affections of the mucous surfaces generally prevail. Inflammation of the eyes, especially of the conjunctiva and tarsal glands, is very likely to occur in such weather; and when it does occur, it is very difficult to cure while that state of the atmosphere lasts; and even if it be cured relapses are then exceedingly common.

A predisposition to ophthalmia arises from epidemic and endemic states of the air; the one denoting a diffused tainted state of the atmosphere, and the other a tainted state confined to a small space.

3. Some diseases predispose to ophthalmia, as small-pox, measles, scarlet fever, &c. Hence arises inflammation of the mucous membranes and of the conjunctiva.

Certain affections of the skin in some cases predispose very much to inflammation of the eyes.

I attended a young gentleman who had contracted the itch at school, which was not attended to for some time. It was cured by means of sulphur, and then he had inflammation of the eyes; when this was removed he had inflammation of the brain, and after that inflammation of the mucous membrane of the small intestines.

The French have an idea that the itch should not be cured suddenly, but by parts; and I think, from having seen a series of inflammations following its sudden removal, it would be safer to adopt their suggestion.

4. Too much use of the eyes predisposes to ophthalmia, as in the case of mechanics whose eyes are much exercised, watchmakers, engravers, &c. Literary men acquire a tendency to it partly by reading much by candle-light, and partly also from the constipation which is the consequence of sedentary habits; for persons whose occupations are sedentary mostly have disorder of the stomach, liver, or bowels.

5. Previous attacks leave a tendency to ophthalmia.

This is in accordance with a general law of the animal economy.

Almost all these predisposing circumstances might be called exciting agents or remote occasions. They differ only in degree, and a high degree of a predisposing occasion would become an exciting occasion.

THE REMOTE OCCASIONS OF OPHTHALMIA,

or those which bring on an attack, are various. They are—

I. COMMON.

1. Cold is one of the most frequent, and it operates in three ways:—

1st. It operates universally on the surface of the body by producing a chill followed by excitement, under which state inflammation attacks the weak part. Many cases of ophthalmia distinctly arise in this way.

2d. Cold operates also as an irritant. A blast of cold air seems to irritate the nerves of the eye directly in some instances, so that the conjunctiva is instantly injected with red blood.

3d. Cold also operates very often by affecting the stomach, liver, or bowels, sympathetically with the skin, which affection is often followed by an attack of ophthalmia, especially seated in the tarsal glands and conjunctiva.

Warm clothing, therefore, is often a preventive of ophthalmia.

Those children and those adults are most liable to ophthalmia who are badly clothed and fed. Thus, poor children, who from necessity or from the profligacy of their parents, and the children of the rich, who from the folly of fashion, are often only half-dressed, are very liable to ophthalmia. And in the same subjects another thing tends to produce the same ill effect, namely, bad diet. From these circumstances inflammation of the tarsal glands and of the conjunctiva are most common in the highest and lowest classes of society.

2. Heat.

1st. It acts as a stimulant, operating immediately on the nervous system, and producing some change there, by which means the heart's action is increased, and the eye being the weak part becomes inflamed. In this way ophthalmia very often occurs.

2d. Heat also very often acts as an irritant on a part of the nervous system: in this way ophthalmia occurs from exposure of the eye to a strong light with heat, or to intense heat alone.

Sir Humphrey Davy's lamp was long a desideratum with glass-blowers. The men who are employed at the glass furnaces in what is called "flashing," now have their faces covered with wire gauze, which in a great measure obviates the ill effects of the heat upon the eyes.

With regard to Sir H. Davy's lamp, the credit of it is not entirely due to him, as the principle was first promulgated, and a lamp con-

structed upon that principle, by Mr. Stevenson, of Newcastle-upon-Tyne. Sir H. Davy appears to have been hurt by this assertion, but such is the truth.

In the same way ophthalmia seemed to arise in Egypt from the high temperature and the glare of white sand.

3. Light also sometimes gives rise to ophthalmia. The sight indeed may be entirely destroyed by a concentration of light.

The Romans, in the decline of their empire, had a horrible way of destroying the sight of those whom they called criminals; many of whom probably were independent men, whose only crime was that of daring to lift their voices against the approaching tyranny. This method consisted of concentrating the rays of light upon the eyes by means of convex glasses.

Some mechanics, as watchmakers, are often liable to inflammation of the eyes, especially of the retina, from the glare of light.

Thus also studious persons are very liable to ophthalmia, partly from the glare of light in reading, especially by candle-light, and partly from their sedentary habits.

In the same way individuals engaged in examining coins minutely have ophthalmia.

I knew a gentleman in the Bank of England who was thus affected. Many years ago Spanish dollars were in circulation, which were stamped by the Bank of England. An individual obtained possession of a dollar and forged the stamp, and the gentleman whom I knew was employed to compare the forged with the genuine stamps. He thus became sedentary, and the glare of light produced chronic inflammation of the whole globe of the eye, especially of the retina.

Light often affects the eyes of infants, and ophthalmia often arises in them from the glare to which they are exposed. I have, for instance, frequently seen a child, a week or two old, put before a large fire, or in a room where two or three candles were burning.

This, I believe, is a very frequent cause of purulent ophthalmia in children.

4. Acrid fumes are frequently the occasion of ophthalmia, such as the fumes to which blacking manufacturers are exposed.

In Scotland many of the peasants live in a low hovel, in the midst of which is a fire, and in the roof a hole. They burn peat, the smoke of which continually fills the hovel. The climate in some parts is cold, and the diet poor. They are all liable to what has been called tender or blear-eyes—inflammation, in fact, of the tarsal glands and of part of the conjunctiva.

In London, when it has been more than usually smoky, I have frequently seen ophthalmia.

Chimney-sweepers, it is remarked, are hardly ever subject to inflammation of the eyes. An oculist in London, who is deservedly very eminent, told me he scarcely ever saw ophthalmia in a chimney-sweeper. It has been ascertained that there is much ammonia contained in the soot, and probably this, by contracting the capillary vessels of the eyes, prevents the occurrence of that impediment to the course of the blood which forms a part of inflammation.

5. Mechanical irritation, &c.

Mechanical irritation is often a cause of ophthalmia; as a blow on the scalp, which sometimes affects the eyes directly, and very often indirectly, through the brain. Cataract often commences with slow inflammation of the eye. The sudden introduction of foreign bodies into the eye produces ophthalmia, by their acting chemically, or mechanically, or in both of these ways; as quicklime, which often destroys the eyes with amazing rapidity, particles of sand, or of dust, &c.

In South America Humboldt says they have a good way of removing sand from the eye, by exciting a copious flow of tears, and using the tongue. They offered to try the experiment on him, but he declined submitting to it.

A man, who lived near the school where I was, was famous for extracting foreign bodies from the eyes, and for this purpose the boys often applied to him. His tongue was very long and soft, and its tip he carried over the surface of the eye.

No man can practise physic successfully who allows himself to be in a hurry; therefore Celsus was right when he said that one physician should have but few patients. Miss Edgeworth mentions (as I stated in a former lecture) a young physician who obtained great credit by discovering that inflammation of the eyes arose from foreign bodies lodging in the nose; and that there is an intimate sympathetic connexion between those parts is known by plucking a hair from the nostrils, by which sneezing is produced, which is a convulsive action of the respiratory muscles; and the eye on that side becomes turgid with blood.

If you have never read "Patronage," I advise you to peruse it; and all Miss Edgeworth's works; and those works which have issued from the pen of the author of "Waverley," though I do not recommend novel-reading indiscriminately. Paley strongly recommended such works as these.

It requires a very nice instrument and a delicate hand to remove foreign bodies from the conjunctiva or cornea.

Inflammation of the eye is very often maintained by tumours in the cellular membrane of the palpebræ. Chronic inflammation thus arising may become acute or sub-acute inflammation in its progress. Some practitioners recommend dissecting them out; but I think it better to pass a sharp lancet quite through them; and from this I have observed the tumours rapidly absorbed.

Some occasions of irritation are different, as soap introduced into the eyes of infants in washing. I have frequently observed how red the eyes of poor children are after their faces have been washed with turpentine soap.

Another occasion is inverted hairs.

A gentleman who was a pupil of Mr. Alcock's attended a gentleman whose eyes had been long affected, and he cured them by observing that a tarsal hair was inverted, which he removed, and which had caused the inflammation.

Last year I attended a literary man who complained that his eyes had been tender some time; they were both chronically inflamed, and on examination I perceived two or three hairs in each eyelid inverted, which being removed, his eyes got rapidly well.

An operation may be the cause of ophthalmia. In performing an operation on the eye, select a favourable season of the year; and take care when you operate that the stomach, bowels, and liver, are in a healthy state. If you operate on an old person in a very cold season, you may give him such a shock that he will sink.

6. Another occasion of inflammation of the eye very often is an affection of the stomach, liver, or bowels; between which there is, as I have before mentioned, a series of sympathies. I am satisfied that gout is a sympathetic affection, arising from disorder of the stomach, of the liver, or of the bowels, or of all of them together, and the same may be the case with ophthalmia. The stomach operates in four different ways:—

1st. Through the heart.

a. By suspending the heart's action suddenly.

b. By rendering the heart's action irregular or intermittent.

c. By exciting the heart so that the pulse becomes quicker and stronger. Thus inflammation of the eye is often produced.

2d. By local sympathy or irritation; or, by creating a local nervous change in different parts, independent of the heart's action.

I have traced these sympathetic influences in all structures of the

body. This, perhaps, depends on some irregular distribution of the nervous fluid ; and it is clear, that on the external part of the body it depends upon an irregular distribution of the animal heat. A person, for instance, may have a pain in his eye, which in its progress may become inflammatory.

3d. By general irritation or sympathy,—so called for want of a better name : hence there is first a change in the nerves, and then the capillaries of the weak part become injected, and thus often inflammation of the eye arises.

In some cases the heart and other parts are simultaneously affected thus.

I knew a gentleman who was almost entirely blind from acidity, in consequence of taking port wine and apple-dumpling, of which he was very fond. When I saw him he could not see at all with the left eye, and with the right eye very indistinctly, so that when I held up three fingers, he told me he saw two.

The brain may be affected through the heart, and the eye through the brain.

I have now a patient affected in this way. She had a sudden pain in the head, with intolerance of light and noise, a hot skin, a quick pulse, and delirium. Two individuals attended her ; one of whom thought it nervous, the other thought otherwise and wanted to bleed her. Now it happened that the gentleman who thought her affection nervous was a physician, and the other a general practitioner ; and he gave way to the physician. Now I would never recommend you to do so.

The difference between a physician and a general practitioner is merely nominal. If I were consulted in company with another physician who differed in opinion from me, I would not give up to his opinion if I thought I was right ; if a third were called in, and differed from me in opinion, still, under the consciousness of the correctness of my opinion, I would not give way to him, nor to a dozen ; no, nor the whole College of Physicians. Such conduct, by which persons give up their right of thinking for themselves, is very fatal.

In some cases again the truth is met half way by two individuals. Firmness and mildness of conduct are necessary for a medical man : from his timidity or the servile submission of his judgment to another man's opinion, a worse consequence than loss of sight may occur. I would not have you quarrel with any man ; let him quarrel with you if he will, but be independent, observe, reflect, and think for yourselves ; if a second individual differ from you, still maintain your

opinion if from minute observation you are convinced that you are correct; and under such a conviction, which should not hastily be made, maintain it, though a hundred individuals think otherwise. I acted otherwise once, when I met old practitioners and others for whose opinions I had respect; but I soon found the bad effects of such conduct. Whatever Dr. Gall may say about the bumps and depressions of the head, I believe that firmness of character arises from circumstances. Dr. Gall says that persons of firm mind have broad crowns; but I believe that a person whose crown is as narrow as a sugar-loaf would be firm under circumstances.

The lady of whom I have been speaking had inflammation of the brain, and in three weeks she had become blind, and has continued so ever since.

A lady whom I attended had inflammation of the brain. Three years before she lost the sight of one eye it appeared like a glass eye, and had no intelligent expression.

In some individuals the sight is much affected by the state of the uterine system. The menses become scanty: which is generally referrible to some disorder of the liver, stomach, or bowels, which oppresses the brain, and through it influences the eye.

I saw a lady some time ago who squinted regularly at the period of menstruation.

4th. The stomach affects the eye through the blood. When the food is not converted into wholesome blood, the system languishes. In all these cases the blood is distinctly changed; the secretions are morbid: for instance, those of the tarsal glands become viscid.

7. Affections of the brain must be placed among the remote occasions of ophthalmia.

Defects of vision, such as seeing double, or seeing a glaring halo round a candle, squinting, weakness of sight, amaurosis, &c., are generally the consequences of chronic inflammation or congestion in the brain, with or without the simultaneous existence of disorder of the stomach, liver, and bowels. Of this an example may be seen in some intellectual children who are driven hard at school without a sufficient allowance of recreation and exercise.

The senses are inseparably connected with the cerebrum, so that when the cerebrum is removed sensation is lost. Hence when the cerebrum is inflamed the sight may be altered or lost, whilst the eye remains unchanged. Thus an extreme intolerance of light may occur from inflammation of the brain, with no inflammation of the eye, and this state may be confounded with inflammation of the retina; but in

retinitis the pupil is contracted to a mere point, and if a small ray of light be then thrown into the eye, it gives great pain. The diagnostic character is, that if the eye be turned from the light the pupil still continues contracted. In chronic inflammation of the brain, the iris is obedient to the light, contracting in the sun and dilating in the shade. Besides, the cerebral inflammation is denoted by a dropping of the upper eyelid, a change in the state of the sensitive and intellectual faculties and the motive powers, a change in the temper and habits, with uneasiness in the head.

Sometimes the converse of this occurs, and ophthalmia spreads to the brain; but most frequently when the brain becomes inflamed secondarily to ophthalmia, the eye is so intensely inflamed as to excite the heart's action; and the brain becomes inflamed upon the common principle that the weakest part is soonest affected.

Independently of these common agents,

II. PECULIAR

remote occasions produce inflammation of the eye.

1. Mercury seems to be one of the occasions predisposing to it, especially to inflammation of the iris. I have heard that iritis arises independently of cold; and then mercury is said to be both a predisposing and an exciting cause of iritis. Iritis is sometimes said to arise from the use of mercury. I think this is a mistake; mercury seems powerfully to predispose to it, but I do not believe it excites it. You can almost always trace it directly to the influence of cold if iritis attack a person under the influence of mercury. I have seen a person, who has been exposed to cold under salivation, get inflammation of the iris: probably this is the most common way in which it arises. The blood always has the buffy coat when mercury induces inflammation of the eye.

Mercury has the power of curing inflammation, particularly of the eye. This at first sight seems inconsistent. I give mercury in every instance of typhus fever till the tongue becomes moist. At the close of convalescence I almost invariably find the stools become clay-coloured. The liver, perhaps, becomes torpid from long excitement. This may be the case in the iris. In the first instance mercury may cause over-accumulation about the iris, and afterwards it may be combined with congestion: and mercury, acting as a stimulus, may remove it. Water-gilders are exposed to the fumes of mercury, whence they are subject to inflammation of the liver.

2. In syphilis, when ophthalmia occurs, the iris is almost invariably affected. Syphilis appears under a *primary* form, in which there is chancre; under a *secondary* form, in which there are blotches about the skin; and under a *ternary* form, in which there are nodes on the bones.

In iritis from syphilis there are always blotches on the skin, especially over the flat bones, as the sternum; and very often ulceration of the throat. The pupils become rather more contracted, and the sight becomes dim, so that the patient has a peculiar suspicious look.

3. Contact of morbid matter may occasion inflammation of the eye.

There is some doubt whether the matter of gonorrhœa can occasion ophthalmia. Some eminent practitioners say that it cannot, while others assert that it can. It is a general opinion that the contact of leucorrhœal matter is a frequent occasion of the purulent ophthalmia of infants. It is often found that the mother had leucorrhœal discharges before and after delivery; and perhaps it does sometimes occur thus: but probably exposure to light, and the introduction of soap into the eyes, and irregular diet, oftener produce it than the circumstance to which it is usually ascribed. The subject, however, requires further investigation.

Morbid matter applied to the eye will produce inflammation of the eye. I saw this once in a village in the north of England when some soldiers came there. Before they came there was not a case of ophthalmia in the village, but it afterwards became very prevalent, and generally could be traced to contact in using the same basin, towel, &c. It may be conveyed in a confined room through the air.

Will ophthalmia arising from a common occasion produce, by matter applied to another eye, a like disease? If so, it proves that contagion exists in diseases arising from common occasions.

4. Certain states of the atmosphere—sometimes general, more frequently local—in some individuals predispose to, in others excite, ophthalmia.

Thus you will frequently find it spreading through the wards of a hospital, or through a workhouse, or in a particular district. Mr. Ware says he saw it range in the distance of a mile as thick as it could have done in India. Recollect that infection is not contagion.

5. Certain diseases occasion inflammation of the eye, as small-pox, measles, scarlet fever; and even catarrh, and what is called influenza, have the same effect.

In typhus fever inflammation of the eye sometimes appears, generally under the form of ophthalmia tarsi: and it never occurs unless the case

is very serious. In typhus fever the eyes are always more red and glairy than natural. This is the eye which occurs in acute and sub-acute inflammation of the brain; therefore, when you see this appearance of the eye, make a point of examining the brain with very great care and very minutely.

When ophthalmia tarsi occurs in these cases there is a sticky purulent secretion, and it is altogether different from that more common condition of the eye to which I have just adverted. It occurs when the patient is exceedingly exhausted with a dry constricted skin, a soft feeble pulse, a dry glazed tongue, and a dusky lip and cheek.

In the last stage of typhus fever, if the patient lie on one side, the eye on that side becomes injected, and an effusion of lymph or pus takes place between the laminæ of the cornea or in the anterior chamber. It is generally a fatal indication.

When the eyelid is paralyzed, so as not to be perfectly closed, and the eye is exposed to the irritation of air and light, the whole globe sometimes becomes inflamed, and proves very troublesome to cure.

LECTURE XXXIV.

COMMON INFLAMMATORY FEVER.

SYMPTOMS AND TERMINATIONS OF INFLAMMATION OF THE EYES.

IF any one were to collect and arrange a series of facts on any particular subject, he would find those facts might mostly be referred to one more general or ultimate fact, which might be called a principle of pathology. And this is particularly the case with diseases of the eye, most of which a medical man might refer to inflammation: some as a cause, others as a consequence.

The constitution, I have already observed, is a very abstract term, which includes many particulars. It refers to an hereditary or acquired weakness which may exist in the whole or a part of the body. This and some other circumstances modify (as I stated in the last lecture) the various affections of the eye; but in this lecture I shall notice them according to their modification by the structure in which they are seated.

SYMPTOMS OF OPHTHALMIA TARSI.

The most common form of inflammation of the eye has been called ophthalmia tarsi, or inflammation of the tarsi. This inflammation, seated principally in the tarsal glands and extending secondarily to the conjunctiva lining the eyelids, is denoted by the following symptoms:—

1. By a viscid secretion from the tarsal, or, as they are sometimes called, the ciliary, or the Meibomian, glands.

This is especially seen in the morning; the eyelids are then generally glued together, and cannot be opened, or at all events feel very uneasy, until they have been washed with tepid water. If you examine these glands with a glass in a healthy state they form a pearly chain, and appear like a series of parallel white lines running in a serpentine direction, and conjoined together. The secretion from these glands bland

and unirritating in its healthy condition, is changed in its quality, becomes acrid, and thus acts as a local irritant, and seems to produce some change in the nerves in consequence of which the capillaries become injected with blood.

2. Then another change takes place, which is, that the conjunctiva is red and somewhat raised at the rim of the tarsus. The viscid secretion and the line of redness along the tarsi are the characteristic symptoms. The tarsal glands will be perceived to be a little swelled.

It sometimes happens in conjunction with these symptoms, that the complaint is attended by scabs at the roots of the eyelashes, and the disease has been called *tinea ciliaris* from its resemblance to *tinea capitis*; and indeed *tinea ciliaris* and *tinea capitis* frequently occur together in the same individual. This seems only an advanced stage of ophthalmia tarsi. If these scabs be removed or fall off, they are found to cover little ulcers seated at the roots of the eyelashes. They often destroy the eyelashes altogether, so that they come out and are not reproduced; and if a new crop arise they are dwarfish in comparison with the original hairs. Then there is a complete line of erosion and ulceration along the tarsus, which is a thin fibrous layer approaching to cartilage, and a part of the conjunctiva is raised. Occasionally there is a further change. You see the conjunctiva far more injected and thickened than natural, and the under eyelids become everted. Oculists and surgeons employ various terms to denote the different stages of this complaint. The first state of this affection, where there is no erosion, has been called tender-eye; and when combined with erosion and ulceration, in the second stage, it has been called lippitudo or blear-eye; or, when the lids are everted, technically ectropium, and then the tears flow down the cheek.

It very often happens with the simple or with the complicated state of ophthalmia tarsi, that the whole lining membrane of the eye is inflamed: that is, not only that part of the conjunctiva which lines the palpebræ, but that which covers the anterior surface of the globe of the eye. This is the most common form of ophthalmia which I see in private practice. It is invariably associated with some irritation, local simple excitement, or low degree of inflammation, or torpor, of the stomach, liver, bowels, or of all of them. The state of the body produced by such disorder is the modifying circumstance of this affection, which is sympathetic, and arises precisely on the same principles as gout.

If you examine minutely you will find chronic inflammation often about the Eustachian tubes, about the nostrils, or the fauces—you will

have pain shooting in the direction of the ear, &c. ; sometimes you may trace the inflammation down to the mucous membrane of the bronchia ; you will find the liver torpid or inflamed, the stools being darker or lighter than natural, or greenish, or varied, &c. ; or the kidneys remarkably disturbed in their functions, with irritation there or in the bladder, the urine being scanty, high-coloured, and depositing a pink sediment, often containing mucous ; or you may have inflammation of the mucous membranes of the stomach or intestines, with a furred tongue, and red and raised papillæ at the tip ; and in all these cases the skin is very much affected, as is indicated by its faded appearance. Some individuals merely affected by the simple form of ophthalmia tarsi, or by that complicated with inflammation of the conjunctiva, are suddenly seized with acute or sub-acute inflammation of the eye just as acute or sub-acute inflammation supervenes on what is called dyspepsia. This affection is most common among the poor and the rich. The habits like the houses of the poor and the rich approach each other. The poor live on tea, porter, spirits, &c., and this plan extends to their children. The rich use a complicated diet, and, especially the nobility, sit up late at night ; hence they become tabid, like the poor.

SYMPTOMS OF STRUMOUS OPHTHALMIA.

When the conjunctiva in a delicate individual becomes acutely or sub-acutely inflamed, it constitutes what is called scrofulous or strumous ophthalmia. The comparative weakness of the body modifies the inflammation, so that writers have given this state a distinct name. There is a slight degree of redness of the eyelids, and if it extend over the lining of the globe, this form of ophthalmia is commonly called scrofulous, and supposed to be hereditary ; but it is not more hereditary than any other affection. There are two varieties of disease called scrofulous. 1. Inflammation arising in a delicate habit ; and 2. The formation of tubercles.

The only difference between common and strumous ophthalmia consists in the state of the body ; the first occurs in strong, the other in weak subjects.

The weakness may be hereditary or acquired.

The attack of acute or sub-acute strumous ophthalmia may be primary—without being preceded by chronic inflammation. It is merely an extension of the affection I have already mentioned, and is denoted when acute or sub-acute—

1. By redness of the conjunctiva, but not in proportion to the intolerance of light.

2. By extreme intolerance of light, of heat, and of a varied temperature.

These alone are not decided characteristics of strumous ophthalmia, but one circumstance which will serve to distinguish it is—

3. A tendency to ulceration of some part of the lucid cornea. The ulceration generally begins rapidly, and the place where it occurs most frequently is upon the margin, or some portion of the centre, of the lucid cornea. It is a vesicle at first which bursts, and then there is an ulcer. Whenever there is ulceration of the lucid cornea the eye is extremely irritable. If the child (supposing the ulceration occurs in a child,) look at the light, or if you talk about the affection in the child's presence, the eye waters very much. With these symptoms there is some degree of fever.

It is of importance to distinguish between this ulceration and a spot or speck on the cornea. The common speck or spot is a deposition of the lymph on the cornea, or between the lamellæ of the lucid cornea; in this case the eye is less irritable than in ulceration, or, perhaps, not at all irritable. In ulceration of the cornea there is a small indentation into which you might introduce the head of a pin, and it is often surrounded by a deposition of lymph. The speck, if outside the cornea, is perceptibly raised above the cornea, but generally it can be seen to be sunk between the lamellæ of the cornea, and then there is no projection, but at all events no indentation. These small ulcers sometimes exist upon the palpebral conjunctiva. I have seen many examples of this. Sometimes a small abscess forms a little behind the tarsi, most frequently on the upper eyelid, and may be seen by everting the lid. The patient in this case complains of a limited uneasiness. When you are called to a patient labouring under sub-acute, and especially chronic, inflammation of this kind, you should examine the whole of the surface of the conjunctiva to ascertain whether any foreign body, or an inverted eyelash, is the cause of the inflammation.

There is a remarkable tendency in this inflammation to return, and its recurrence is influenced by two circumstances:—

1. The state of the weather.

It is very likely to reappear with the return of a thick raw atmosphere, such as occurs in London in the month of November; and in such weather it is very difficult to cure.

2. Any thing that disorders the stomach, as an indigestible meal, will, in some instances, reproduce the ulcer very rapidly.

If a strong subject be made weak by an attack of fever, and be exposed to cold or have disorder of the stomach, and then have an attack

of inflammation of the eyes, it will put on the character of strumous ophthalmia. You may see a case of inflammation of the eye occurring in a strong subject with none of the characteristic symptoms of strumous ophthalmia, and yet in its progress it will degenerate into that form of inflammation. I have seen this again and again. This proves that weakness of the constitution is the modifying circumstance of this inflammation.

SYMPTOMS OF COMMON OPHTHALMIA.

What is called common ophthalmia, or inflammation of the conjunctiva in strong subjects, is the same affection occurring in a vigorous habit. It is distinguished—

1. By redness of the conjunctiva.
2. By a sensation of heat in the eye.
3. By effusion of tears.
4. By swelled eyelids.
5. By considerable pain on exposure to light.
6. By a feeling as if foreign bodies were in the eye. The uneasy sensations in the eye are aggravated by directing the attention to the affected part.

Though generally there is an absence of the tendency to ulceration of the cornea which marks the strumous variety, yet sometimes the cornea becomes implicated in the affection, and those vessels, which usually transmit a colourless fluid now carry the red particles; and these red vessels may in some cases be seen traversing across that part of the conjunctiva which covers the lucid cornea, and this sometimes gives the appearance of redness to the lucid cornea; but the most common appearance of the cornea is a milkiness which seems to depend on distention of the eye. Take the eye of an ox, and press it, and you will observe that the cornea becomes milky. The same often occurs in horses when they are first turned out to grass, from feeding with the head low: they generally go blind, and if you examine the eye you will perceive a milkiness of the cornea. This may often be cured by bleeding, by correcting the position of the head, and by a spare diet.

Common ophthalmia may be acute or sub-acute, and then there is fever, but it has always a tendency to become chronic, all the symptoms remaining in a diminished degree. Or the chronic may arise independent of the acute and sub-acute forms.

It is a fact worth remembering that rheumatism sometimes attacks the eye. I have seen inflammation of the conjunctiva occur very sud-

denly in rheumatic habits, and generally the colour is rather darker than in the usual form of inflammation there. It yields very rapidly to the use of colchicum.

SYMPTOMS OF PURULENT OPHTHALMIA.

Suppose the common remote occasion to have been very intense, or a peculiar agent to have been applied, and pus to be secreted from the conjunctiva; the affection in this case has acquired the name of purulent ophthalmia, which is only a modification of strumous, or of common ophthalmia.

Purulent ophthalmia in some cases arises from cold, from exposure to intense light, or from the use of coarse soap which gets introduced into the eyes; but suppose it arises, as it sometimes unquestionably does, from a peculiar poison,—from the contact of morbid matter; it then seems to have a power of propagating itself. Thus, if a medical man be injecting some fluid into the eye with a syringe, and occasions such a revulsion that a drop of the matter gets into his own eye, he will have the same affection. Whether this occurs in purulent ophthalmia arising from common occasions is not yet ascertained, and requires more minute observation than has hitherto been bestowed on it. Whenever pus is secreted from the conjunctiva great care is necessary lest the disease should communicate itself. I doubt whether it is contagious when it arises from a common remote occasion. But since we cannot always trace it to its origin, and some forms of it are contagious, we should be cautious in every instance till the doubt about the subject be cleared up.

Whether it arises from a common or a peculiar remote occasion the symptoms are the same. It most commonly arises a few days after birth, and in a few days pus is formed. The following are the symptoms of purulent ophthalmia, which is generally a very intense form of inflammation:—

1. It most commonly comes on with a sudden sensation of sand rolling in the eye, or needles pricking the eye. Of course this symptom does not refer to young infants.

2. The next symptom is a sudden and excessive redness of the conjunctiva, and this redness is not confined to that part of the membrane which covers the globe of the eye, but extends to that which lines the palpebræ above and below; and in a short time the conjunctiva becomes excessively distended, so as in a few days to resemble the surface of a protruded portion of rectum.

3. Great swelling of the superior eyelid.

4. A very copious secretion, first (for one, two, or more days) of a scalding serum, then of a yellowish or greenish pus. If you examine the eye with a powerful magnifying glass, the pus may be seen oozing from the villi of the conjunctiva.

5. A tendency to ulceration or sloughing of the lucid cornea, when it is severe. The cornea in the progress of this affection seems sunk, or embedded in the conjunctival portion of the globe, which seems raised above it. In bad cases a sort of strangulation seems to take place, causing sloughing and ulceration; or the lucid cornea in bad cases becomes rapidly inflamed and eroded. Probably, also, the maceration of the cornea in the pus, as was suggested by the old writers, is one circumstance which occasions the slough, though it has been denied by writers in the present day. Sometimes the eye has been burst by attempting to open it.

6. The next remarkable circumstance is that the acute inflammation quickly becomes chronic or atonic. It puts on this character most rapidly in infants and weak adults, in two or three days for instance; in strong adults it is generally longer, say a week. It is important to be able to distinguish the change when it assumes the atonic character.

1st. Attend to the colour.

During the acute stage the conjunctiva is vividly red; when it becomes atonic, it becomes darker and darker, and puts on a dusky livid hue; the membrane is more flabby, and the vessels become less vivid, but of a brick-dust colour. It is difficult to point out these appearances by any language, but you should see them at an Ophthalmic Institution, and having once seen them you will never forget them.

2d. You have a marked diminution of the pain. The alteration of colour, and the diminution of pain, are the only certain indications; but,—

3d. The next circumstance is, that the secretion becomes more bland, and less acrid to the patient's feelings; but this may deceive you. The pulse becomes less disturbed, the skin cold, and the patient complains of more languor and lassitude.

In this stage one of two things may take place.

1st. An uniformly smooth chronic thickening of the conjunctiva on the globe and palpebræ may occur, which thickening may act as a local irritant on the eye.

2d. Or if there be not this smooth thickening, what have been called granulations (arising from the protrusion of the villi, and the effusion of lymph) may arise, having no disposition to cicatrization; they are

very common in the chronic stage of purulent ophthalmia, but by proper treatment they may generally be prevented. They sometimes form very insidiously, and generally render the cure very difficult. Whenever you see chronic ophthalmia, especially when united with affections of the tarsal glands, always examine the lining of the inferior eyelid: you will find it loaded with blood, and perhaps with granulations. These granulations are not, as some writers say, always the consequence of acute ophthalmia, but occur when chronic ophthalmia has been the primary affection.

SYMPTOMS OF IRITIS.

Another form of inflammation of the eye, modified by structure, is very important to distinguish it: it has been called iritis, or inflammation of the iris. It is easily distinguished. What we call iritis is a general inflammation seated in different parts of the eye. The iris is sometimes inflamed simultaneously with the joints; iritis sometimes, for instance, occurs during an attack of rheumatism.

1. The first and most common symptom of iritis is, that the iris loses its natural colour and brilliancy: this arises principally from the deposition of lymph.

It most frequently happens that iritis attacks only one eye at a time, which affords an opportunity of observing the iris in comparison with that of the sound eye. The iris very often has a reddish or brownish tint, with more or less puckering of the margin.

2. The next circumstance which would strike a medical man is the state of the pupil, which becomes more contracted than natural. This contraction is very often irregular: and this arises from adhesion from the effusion of lymph, which has glued the iris—mostly to the capsule of the lens. These adhesions are seen by using the belladonna: they exist when the pupil dilates in a triangular or oblong form. The iris is much less irritable to light than natural.

3. The aqueous humour becomes somewhat turbid, principally from the effusion of lymph. This circumstance, which is a constant attendant in a greater or less degree, is very remarkable, and is the cause of dimness of sight in the first instance. It is believed generally, that the iris secretes the aqueous humour of the anterior and posterior chambers.

4. The sight becomes dim and weak, so that if you give the patient a book, you will see that at a short distance he cannot read it distinctly.

5. A linear, glairy, redness of the tunica sclerotica occurs. This only attends iritis. Very large vessels, interspersed with smaller ones,

run in broad flashes directly across the sclerotic coat to the lucid cornea in almost straight lines, between which you may see the white part of the globe. In inflammation of the conjunctiva the red vessels are numerous and minute; the conjunctiva is intensely injected.

6. A sort of zone near the junction of the cornea and tunica sclerotica. In the healthy state I believe there is a zone of vessels there which transmit a serous fluid. In many cases of iritis this appearance is absent.

7. You have deep-seated pain in the globe, afterwards extending across the eyebrows, which varies much in its degree. If the inflammation be acute the pain is very severe; if sub-acute the pain is less severe; and if the inflammation be chronic scarcely any pain is felt at all. In acute, sub-acute, or chronic inflammation, the pain comes on by fits, after which it abates or entirely ceases for a time. The pain is worse at night, owing probably to the increased excitement which usually occurs at that time.

Iritis very frequently arises from a syphilitic taint. Be very cautious with regard to the pain in that form of iritis which occurs under syphilis, in which you have secondary symptoms, especially copper-coloured blotches on the forehead or sternum: with these you have disturbance of the general health, more or less emaciation, and a pale, faded, sallow, sickly appearance of the countenance. Even without pain there is dimness of sight; a turbid state of the aqueous humour; alteration of the colour of the iris, perhaps with small pustules on its surface; contraction of the pupil; and a suspicious expression of the eye. As it advances there is very great pain.

The iris is well supplied with nerves. Iritis may very generally be considered as inflammation of the whole globe of the eye. You have distinct evidence of the iris being inflamed. You have proof of the sclerotic coat being inflamed. You know that the choroid plexus is connected with the sclerotic coat by nerves and vessels, and it is probable that it is always inflamed too. You have proof that the retina is inflamed by the intolerance of light.

SYMPTOMS OF RETINITIS.

When the retina is inflamed alone the following are the indications of that condition.

1. A remarkable intolerance of light, most urgent when the eye is exercised, as in reading or looking at a bright object.

2. A pupil, in slight cases very variable, alternately contracting and

dilating with great rapidity ; or, in other cases, remarkably and permanently contracted to the size of a pin's point.

3. The pupil is very often slightly twisted from the centre, especially when the inflammation occurs secondarily to some affection of the head, which is often the case. This alteration of the pupil gives a peculiar expression to the eye and countenance, which is often noticed by the patient's friends, but which it is impossible to describe in words.

These three symptoms form the positive, and the absence of all the other symptoms of inflammation the negative, proofs of this inflammation. There is no apparent inflammation in the external tunics of the eye or in the iris, sufficient to account for the intolerance of light and variable or contracted pupil.

It is very apt to attack sedentary persons, such as literary men and students who read much by candle-light, or those who look at bright objects, for example, mechanics, &c., especially in a chronic degree in combination with disorder of the stomach, liver, bowels, and skin. But it is very often found in persons whose brain is gorged.

The chronic form of inflammation of the retina is, I suspect, much more common than is generally believed. Acute inflammation sometimes attacks the retina and rapidly destroys the sight : the pain is excruciating, and the pupil soon becomes gaping and motionless.

In chronic inflammation of the brain the patient sometimes complains of intense pain, but no indication of mischief can be discovered on looking into the eye. There is extreme intolerance of light, and it is distinguished further by the functions of the brain being disturbed.

1. The intellectual functions undergo some change : there is usually inaptitude, &c., of mind.

2. The sensitive functions are affected ; as is proved by intolerance of light and noise, altered taste, and irritable touch.

3. The motive powers are influenced : there is obscure uneasiness in the head, a dilated pupil, a dropping of the upper eyelid, &c.

SYMPTOMS OF AMAUROSIS.

The affection of the eyes called gutta serena, or amaurosis, consists in a weakness or abolition of sight, which cannot be accounted for on examining the eye. It very often indeed proceeds—

1. From simple turgescence or fulness of vessels about the head, chronic congestion, or chronic inflammation of the brain, or what Rostan calls *ramollissement du cerveau*.

2. Sometimes it is the effect of some disorder about the optic nerves. It arises—

3. Sometimes from inflammation, &c., of the retina itself.

4. Sometimes from affections of the frontal nerves.

5. Sometimes from congenital defects of the eye.

6. From extreme exhaustion. I have seen it occur immediately after a large quantity of blood has been lost. It occasionally arises in protracted cases of typhus fever; the sight becomes dim and the pupil dilated even after the affection of the brain has been removed. A patient, for instance, in passing an evacuation in the erect position finds the sight become dim; and this may be permanent, or a squint may occur. Many individuals see black spots or bright spangles before their eyes when they are exhausted, and then rest and cordials are the best remedies.

7. From poisons; especially from the operation of mercury on the brain.

8. It sometimes arises sympathetically from affections of the stomach. Let us next consider the—

TERMINATIONS OF OPHTHALMIA.

Inflammation of the eye terminates precisely as inflammation does in any other part. It may terminate—

1. By effusion, either simple, adhesive, or suppurative, or all of them.

1st. The most common is the simple effusion, in which you have an increase of the natural secretion: this occurs mostly in persons with paralysis of the lids, or from foreign bodies, &c.

Sometimes effusion occurs in the cellular membrane under the conjunctiva, raising it from the sclerotica so as to be a little above the lucid cornea: this has been called chemosis.

Sometimes blood is effused in the cellular membrane under the conjunctiva, as in inflammation of the bronchial passages, and then it is called ecchymosis.

2d. Adhesive effusion is the effusion of lymph, or of that substance which is capable of being, and often is, organized. In this way it may happen that parts of the palpebral lining and of the conjunctiva covering the eye are glued together. It sometimes happens that lymph is effused between the lamellæ of the cornea, which becomes hazy or opaque, and a permanent spot or speck often remains,—a nebula or cloud on the bright part of the cornea.

Lymph, you should recollect, is generally effused in iritis; or very

often between the iris and the capsule of the lens, uniting the one to the other, and the pupil becomes permanently contracted, which would limit the range of vision ; or the pupil may be plugged up with lymph, so that the patient becomes perfectly and permanently blind. Sometimes the iris adheres to the inside of the cornea. Iritis, then, is obviously a very dangerous inflammation so far as the sight is concerned.

3d. Suppurative effusion.

Of this you have an example in purulent ophthalmia, in which abundance of pus is secreted from a mucous surface. The conjunctiva is very nearly related to our old friends the mucous membranes.

It very often happens in certain habits, from mismanagement, or even under the best management, that the whole globe of the eye suppurates after an operation on it ; and the same thing may occur independently of local injuries. You have an example of suppurative effusion when pus is poured out on the cornea under ulceration.

Sometimes pus is secreted into the anterior chamber of the eye, which is called onyx ; and sometimes it is effused between the lamellæ of the cornea.

The effusion of pus is not so dangerous as that of lymph, because it cannot be organized.

It is important to distinguish lymph from pus, and having once seen them you can never mistake them. Pus is of an uniform consistence and yellowish colour. Lymph is glairy and in irregular masses. Inflammation of the eye sometimes terminates in—

2. Ulceration ; of which you have examples in inflammation of the conjunctiva occurring in weak subjects, and in purulent ophthalmia from common or peculiar remote occasions. You have ulceration in the margin, or in the middle, or in the interior of the lucid cornea. And when it takes place the ulcer is filled with lymph, which becomes organized, and thus the breach is repaired. It terminates in—

3. Mortification.

Sometimes you have sloughing, a species of ulceration ; it most frequently occurs in purulent ophthalmia, sometimes from inflammation of the lucid cornea. In some cases this arises from acrid discharges.

Saunders says the eyes have been bathed a week together in pus without sloughing occurring. But a friend of mine, in extensive practice, says the eye sometimes bursts from discharges kept to the eye for days by poultices.

The cornea loses its natural brilliancy and transparency ; a fissure takes place, as in sloughing on the surface of the body ; a line of ulceration succeeds : layer after layer comes away, until the anterior

chamber is opened, and sometimes large portions of the lucid cornea slough off; the aqueous humour is discharged, and sometimes the lens escapes. The ulceration may be healthy or unhealthy; when the sloughs are going on well a white halo of lymph surrounds the part, the eye becomes less red, and less intolerant of light; and when unhealthy, the edges have a ragged flocculent appearance.

Here, then, you see the danger of the aqueous humour escaping if the eye be not carefully examined. If the eye be closed in purulent ophthalmia it should be opened with great delicacy.

4. Granulations may form in the eye: on the cornea, which is a species of regeneration. There is another form of granulations not deserving the name, consisting of little hard grains, forming under the eyelids, acting there as foreign bodies, and maintaining the inflammation to a great degree. They are not always a consequence of acute ophthalmia, and may generally be prevented. Neither do they always attend ophthalmia; for even in the purulent form the conjunctiva is often immensely distended and thickened, but the surface is smooth, and none of these tubercles are formed. They sometimes form not only under acute and sub-acute inflammation, but very insidiously under chronic inflammation, and are very difficult to cure in these cases.

LECTURE XXXV.

COMMON INFLAMMATORY FEVER.

TREATMENT OF INFLAMMATION OF THE EYES.

I PROCEED to consider the treatment of the various forms of inflammation of the eye which I described in the last lecture ; and, first, with regard to the

TREATMENT OF OPHTHALMIA TARSI.

I. LOCAL TREATMENT.

1. The best local application in the first instance is the unguentum hydrargyri nitratis ; and the best mode of applying this is in the liquid form. Have a fine camel-hair pencil, dip it in a little of the ointment, and make it liquid by passing it rapidly through the flame of a candle ; and in doing this you should use a double motion, that is, you should not only rapidly pass it through the flame, but at the same time rotate it between the finger and thumb. You should learn, therefore, this double motion, otherwise the hairs of the pencil being singed, a portion might be left in the eye, and act directly as a local irritant. It is best to use the strong ointment, which should be applied once a day for a few days along each tarsus. The operation is at first painful, and stimulates the tarsal glands, producing a copious secretion of tears and some smarting of the eye.

2. Another important point is to keep the eye clean, especially in the morning. The eye may be washed twice a day with tepid water, using a soft sponge or a soft clean towel, so as entirely to remove the gum which collects about the roots of the eyelashes.

Sometimes great benefit is derived from the zinc ointment, especially when the lids become glued together in sleep. Or this effect may be prevented by anointing the edges of the tarsi with oil of almonds or the mildest white spermaceti ointment. But one of the best means of preventing the agglutination of the lids during sleep is to avoid overloading the stomach at bed-time.

But as this affection is invariably secondary to some affection of the alimentary canal, and will generally cease of itself if that affection be removed, it requires—

II. CONSTITUTIONAL TREATMENT.

With regard to—

1. The medical management.

1st. It is generally necessary that you should give occasionally a mild laxative.

2d. You may also occasionally give a mild alterative if the secretion of bile be morbid or scanty : as, for instance, one grain of calomel, or two or three grains of blue pill, or two or three grains of mercury with chalk. If there be no deficiency of bile you need not give any mercury, and at all events it need only be exhibited every second or third night. In this case other aperients may be used, such as castor oil, or aloes combined with rhubarb or jalap, and extract of gentian. Mercury should only be given for a definite end,—to restore or improve the secretion of bile; and when that object is accomplished it should be altogether discontinued.

3d. The tepid salt-water bath occasionally used (perhaps about twice a week) will be of great benefit. With regard to—

2. The regiminal management.

You should—

1st. Attend to the diet; which should be simple in quality, and moderate in quantity. If there be no fever, it should be nutritious, consisting of three plain meals in the day. The affection occurs most frequently in children, and they should have bread and milk morning and evening, and animal food at noon.

2d. In all these cases it is of importance to maintain the general strength, for which purpose a proper share of exercise in the open air should be taken when the weather is favourable, but not carried to fatigue.

3d. The clothing should be sufficient to keep the skin comfortably warm. Nothing operates so much upon delicate adults or on children as a variable atmosphere, and on that account the surface should be completely clothed with flannel in all these cases.

4th. It is of importance that the patient should have a sufficient quantity of sleep, and that it should be taken at an early hour. Nothing, with the exception perhaps of cold and an irregular diet, develops scrofula as much as keeping late hours.

5th. Remove all stimulants, and abstract all the opposing circumstances ; for instance, the remote occasions of the local affection and of the disorder of the alimentary canal, as heat, light, cold, cramming, and exercise of the eye. This affection is often protracted indefinitely by errors of diet and drinks, &c.

The same local treatment, the same medical treatment, and the same general management, are applicable to *tinea ciliaris*. A very good substitute for the citrine ointment, as it is called, and nearly resembling it in its properties, may be made by intimately blending together one drachm of what is called the red precipitate, finely levigated, with one ounce of the cetaceous ointment. These are generally the best proportions ; in some cases half the quantity of red precipitate answers very well.

In cases of *ophthalmia tarsi* combined, as it often is in adults, with chronic inflammation of the conjunctiva, your first object should be to examine and be sure that the eyelashes are not inverted. I have known several examples where practitioners having overlooked this circumstance have failed to remove the inflammation ; while another practitioner, by plucking out the inverted hairs, has succeeded in curing it.

This form of inflammation is complicated with an affection of the stomach, liver, or bowels, or all of them, excepting those cases which depend upon inverted eyelashes, or other mechanical irritants. Attend to these, and the patient gets well rapidly.

Sometimes the patient actually labours under a low degree of inflammation of the mucous membrane of the intestines, and leeches, a bland diet, and a tepid bath, will remove it. In most cases a spare diet is not required, but merely a simple one.

A lady was attended by an eminent oculist for months with this complaint. She had red eyelids, gummy eyelashes, with chronic inflammation of the conjunctiva. The first day I saw her it was evident that the inflammation of the eye was only a part of a most extensive affection. I desired her, (as I frequently do), without assigning any reason, to put down all she ate and drank the next twenty-four hours. She gave me an account of what she took, and it amounted to a considerable weight of various kinds of food. Here, then, was the secret. I prescribed the occasional use of a tepid bath, an occasional laxative, and an occasional alterative, and allowed her about sixteen ounces of food daily ; and under this treatment she got well.

You should make a point of putting the patient in a fresh atmosphere.

If a confined close atmosphere be breathed, the disease is prolonged in spite of every means.

You may assist in mitigating chronic inflammation of the conjunctiva by half a grain or one grain of nitrate of silver in one ounce of water. This may be applied once a day. Or you may use a lotion of sulphate of copper or of alum, in the proportion of one or two grains to an ounce of water.

TREATMENT OF STRUMOUS OPHTHALMIA.

This form of ophthalmia is often sub-acute. In these cases you will generally find local bleeding and purging will remove the inflammation to a great extent. While the fever, local heat, and intolerance remain, leeching will be beneficial. If it occur in a child, allow it a little bread and milk every morning, and a small quantity of animal food in the day, if there be no fever. But if fever be present, you must make use of a bland farinaceous diet, as arrow-root, &c. If you apply leeches, do not apply them too near the eye, for the punctures often inflame, and the inflammation extending may produce swelling of the lids and aggravate the original affection. Beside this, I believe that they never do any good unless they reduce the force and frequency of the heart's action : therefore it is not of consequence to apply them near the eye, and if the tongue be red at the tip they may be of service applied to the epigastrium. If the medical man have a delicate hand, he may scarify the under eyelid when it is overloaded with blood. It should be turned out, and the mere weight of the instrument (which should be a very fine one) should pass about one-sixth of an inch along the conjunctiva, so as to make a slight incision as fine as a hair, and then the blood rapidly oozes out. The other eye should be kept open. Wash the affected eye with a fine soft sponge and tepid water as long as the bleeding continues ; and be sure that no clot of blood is left in the eye, to act as a local irritant, and increase the inflammation. If the operation be not performed with extreme delicacy, much harm may be done.

Blisters behind the ear or to the nape of the neck will be advantageous ; and considerable benefit will be derived from one drop of the vinum opii, or of a watery solution of opium, introduced into the eye once a-day. But in these cases you will do no good unless you pay attention to the diet. Prescribe occasionally a little alterative, and keep the bowels open daily by a mild laxative, as senna, &c.

This plan, if properly persevered in, will succeed even when ulceration has taken place.

It sometimes happens that a sub-acute inflammation of this kind suddenly becomes very acute, and threatens the destruction of the eye: the conjunctiva becomes extremely red, the cornea becomes hazy and red vessels are seen running across it, there is extreme intolerance of light, with an intensely hot skin, and a very quick pulse.

I saw one day a boy with sub-acute inflammation of the conjunctiva, with a small ulcer of the cornea. This was in the beginning of December, when the weather was cold and raw, and the inflammation suddenly became acute, but was stopped by copious blood-letting, followed by a full dose of opium.

Relapses are extremely common, especially from four sources; 1. From cold; 2. from irregularity of diet; 3. From late hours; and, 4. From anxiety of mind.

Therefore, when the patient is convalescent, he must avoid cold, and indigestible food, keep good hours, and abstain as much as possible from anxiety.

Change of air is often necessary. If the patient continue delicate, send him into the country, and, if convenient, let him go to the sea. In the first week or two he may use a salt-water bath, about the temperature of 98° Fahr., every second day. After that, he may use a salt-water bath of the same temperature, and in rising from it, he may have two gallons of water poured over him. After this he may go into the sea.

TREATMENT OF COMMON OPHTHALMIA.

When this inflammation of the conjunctiva occurs in strong subjects, if it be acute, you must bleed till you make a decided impression on the heart's action. This will empty completely the vessels of the part affected, and sometimes the injection does not return. Sometimes, however, the injection does occur again, and then it will be necessary to bleed the patient again in the same decisive way as before. If you wish to save the patient's strength, bleed him erect on his feet, by which means syncope will occur from the loss of a few ounces of blood, but in the recumbent posture a much larger bleeding would be necessary to produce the same effect. Immediately you perceive symptoms of approaching syncope, the face becoming paler and the breathing hurried, lay the patient down.

A friend of mine in the North of England has used this method of

bleeding with very great success. If the patient be in bed, syncope will occur sooner if the trunk be erect than in the horizontal posture. During syncope the eye is perfectly blanched, the capillaries which were injected become empty, the inflammation is suspended and often is not renewed. When you abstract blood copiously, give a full opiate after the patient begins to recover from the faintness, to prevent hemorrhagic reaction.

One or two decided bleedings, with local blood-letting, saline aperients, and calomel, will generally be sufficient to remove the inflammation rapidly. A dose of calomel, rhubarb, and jalap, in combination, should be given, and be followed up by castor oil, or sulphate of magnesia and infusion of senna.

Blisters should not be applied till the violence of the inflammation is subdued. I have never seen them of use until some intermission has been produced. They may be placed behind the ear, on the nape of the neck, or on the epigastrium; but if they increase the heart's action in force or frequency they do harm, and should not be repeated.

Nauseants are beneficial in some instances. Ipecacuanha may be given in small doses, frequently repeated, till it produces a damp relaxed state of the skin, and a loose state of the bowels. It reduces the heart's action, and thus allays the inflammation. In all these cases warm applications should be preferred. If any lotion be required, tepid water is, upon the whole, the best. The application of cold is often followed by what is technically called reaction, and the inflammation is aggravated. But there is some exceptions to this rule, which can only be decided by consulting the patient's feelings, for cold applications may be used if they be not uncomfortable.

Be strict about the diet, which should be very spare.

Exclude the light to a considerable extent, but remember that though it is right the eyes should be moderately shaded from the light, you are not to keep the patient in perfect darkness. This is generally a very bad plan; for, when light is readmitted, the irritability of the eye is so great, that the renewal of the inflammation is the consequence.

The patient should be kept in an equable, and not very high, temperature, and rest should be enjoined. The trunk should be elevated in bed, and the head should be supported, but the face on the inflamed side should not touch the pillow so as to allow heat to accumulate there.

The acute stage, of which we have been speaking, having passed away, the pain entirely ceases, or becomes diminished; the intolerance of light is abated; there is a cessation of the scalding tears; the eye is less vividly red, and the vessels have a dull, flabby appearance; the

tarsi have a tendency to adhere; and the fever is much abated. Astringent injections often answer a good purpose, or a single drop of *vinum opii*, introduced once or twice a day into the inner canthus of the eye. Great delicacy is required in order to do it properly. If it be dropped from a height, from the neck of a bottle, it directly irritates the eye. The best plan is to have a small silver instrument in the shape of a salt-spoon, by which you may introduce it gently over the inner canthus. The eye smarts a good deal, there is a copious flow of tears, and a marked relief of the symptoms. One of the best astringent injections you can use consists of one grain of oxymuriate of mercury, one drachm of *vinum opii*, and six ounces of distilled water; or you may use alum, or sulphate of copper, in the proportion of one grain to an ounce of water; or nitrate of silver, in the proportion of one grain to four or six ounces of water. The injection should be tepid. Go on with a regulated diet; attend to the bowels; let the patient avoid cold, and take a sufficient quantity of rest.

TREATMENT OF PURULENT OPHTHALMIA.

In the first stage it requires, in adults, very copious blood-letting. The best plan is, when sand appears to roll in the eye, to bleed very decisively: that is, to approaching syncope; and to follow this up with a full dose of opium. Saline medicines with *colchicum* will then generally have a very excellent effect.

If you refer to the *Edinburgh Medical and Surgical Journal* for 1807, you will find an excellent paper on this subject by Mr. Peach.

When purulent ophthalmia occurs in infants, be careful about general blood letting. Local bleeding in the onset is generally better; and you should never leave the patient till the bleeding from the punctures is stanch'd, for children are sometimes lost in that way.

Remember one thing with regard to this variety: that the atonic stage occurs more rapidly than in any other inflammation of the eye, especially in infants and delicate adults, so that the time for bleeding is brief. The two characteristics of the chronic or atonic stage are, the colour becoming dusky—less vivid and more brick-coloured, and the appearances of the vessels flabby compared with the first stage. There are also a diminution of pain, a more bland secretion, and less irritability of the eye, while the skin often becomes more cool, the pulse more feeble, and the strength more prostrate. These last are not constant indications, the first two are. The same plan must still be pursued, but under a subdued form. A bland diet and a regulated state of the

bowels are required, and at this period you may sometimes use local blood-letting with great advantage. This is the period also for astringent lotions, of which the best is composed of two or three grains of alum to an ounce of distilled water. The strength of this may be varied according to its effects; if it produce much pain, the quantity of alum must be lessened. Some use a lotion containing half a grain or a grain of nitrate of silver to an ounce of distilled water, but I prefer the solution of alum; and if the lotion require to be varied, I think sulphate of copper a good substitute for the alum. Before using these lotions the eyes should be cleansed thoroughly from pus by tepid water, and the lotion should be injected by Anel's syringe, which is the best for the purpose. The medical man should do it himself first, to show the patient's attendants the proper method. If the eye be not opened carefully, or be syringed violently, you may have some of the fluid spirted into your own eyes, and thus you may get the disease. I met with such a case lately. You cannot be sure whether it is from a peculiar or a common occasion, and whether, if it be from a common occasion, it can or cannot propagate the disease, there is considerable risk, against which you should guard the attendants by warning them of their danger.

When ulceration or sloughing occur in the atonic stage of inflammation, the cure will mainly depend on the general management. It will require the same treatment as ulceration of the cornea in strumous subjects, which I mentioned under the head of strumous ophthalmia. Attend to the functions of the skin, and keep the bowels moderately open every day. Give an occasional alterative if necessary; and put the patient in a fresh atmosphere, which is of great consequence. If the stools be sour, as they very often are in children, give magnesia, or the carbonate of one of the alkalies, with an aperient. Attend to the diet, which in all these cases should be nutritious, but not too stimulating, lest it should excite the heart's action.

In many infants, in two, three, or four days, the atonic stage occurs; in strong adults in six, seven, eight, or nine days perhaps.

The atonic stage having once been formed, the cure mainly depends on what I have spoken of as the general management.

Some advise bark, and it may be tried in substance, or in the form of infusion. But sulphate of quinine is said to, and I think does, possess all the valuable properties of bark, and is exceedingly applicable to children. One drop or less of dilute sulphuric acid will dissolve a grain of sulphate of quinine in a very small quantity of water; and thus you may give it often with a very beneficial effect. The almond emulsion conceals it best.

The great objects are to arrest the inflammation at the onset; to prevent sloughing; and, lastly, to prevent the granulations.

When the granulations form on that part of the conjunctiva which is reflected upon the palpebræ, they press upon the globe of the eye, and generally end in ulceration of the lucid cornea itself. When these granulations exist, one of the best applications is the sulphate of copper, by which the army surgeons most frequently remove them. Some persons use the scissors, and then apply the blue-stone; others trust entirely to the blue-stone. And latterly a single drop of Goulard's extract has been used with very great benefit. Attend to the state of the skin and of the bowels, regulate the diet, and put the patient into a fresh atmosphere. They are generally very tedious cases, but if the medical man be dextrous in the application of the blue-stone, and attentive to the regiminal management, he will generally succeed.

In neglected cases the conjunctiva becomes very much thickened, its surface remaining smooth; and I believe the best mode of removing this and the granulated condition of the conjunctiva, is to persevere in a subdued antiphlogistic regimen, including local blood-letting, a regulated diet, and mild aperients.

THE TREATMENT OF IRITIS

depends on its degree. When it is acute it is a very dangerous affection. It may generally be removed very rapidly by bleeding locally or generally; and there is a great advantage in bleeding when the inflammation is acute or sub-acute, because you can obtain the specific effects of mercury on the system far more rapidly, and by smaller doses, than before blood is abstracted. The two remedies in iritis are bleeding and calomel.

If the inflammation be acute, bleed the patient promptly and decidedly at the onset, and give calomel to salivation; by these means you will stop the inflammation and save the patient's sight. Calomel has a remarkable power of averting the inflammation, which is attended by effusion of coagulable lymph; and thus far it is almost a specific. Having reduced the force and frequency of the heart's action by bleeding, you may effect the system by very small quantities of calomel indeed. If in any case it be of very great consequence to affect the system very rapidly, one grain of calomel every four or six hours is generally sufficient. I used to give one grain every two hours, two grains every four hours, or three grains every six hours, but this is more than is requisite. You will generally arrest the disease by the time the

mouth is affected. It is necessary to combine each dose of the calomel with about a quarter of a grain of opium.

In chronic inflammation, relief will be obtained from the use of leeches, and the cautious administration of mercury.

Attend to the state of the pupil in all the stages of iritis. Dilate it by rubbing extract of belladonna round the eyelid; or mix a scruple, or half a drachm, or sometimes even a drachm, of extract of belladonna in an ounce of water, and strain it: insert two or three drops of this fluid into the affected eye morning and evening, and then the pupil will immediately become dilated. Lymph is often effused between the capsule of the lens and the posterior part of the iris, and adhesion takes place, and if the pupil be dilated at that time the sphere of vision will still be considerable. I should not hesitate to use belladonna when adhesions had taken place, if they were recent, although some practitioners are afraid to dilate the pupil after adhesions have formed. They are often broken down by dilating the pupil, and especially by continuing the calomel several days. You may almost invariably discover by the use of belladonna whether adhesions have taken place, for you may be quite sure of it if you see the pupil dilate in a triangular form; but if it be quite circular you may be certain there are no adhesions. In some cases great care is necessary in the administration of calomel. In one gentleman whom I know its action is that of a poison, and in him a very small portion produced ptyalism after he had been bled. In some instances, then, you cannot use calomel in the way I have directed. I have seen cases where it has produced inflammation of the bowels, and then the best preparation is hydrargyrum cum cretâ, or you may prescribe mercurial friction. When the mouth becomes sore, you should immediately suspend the use of calomel, at least for a few days, because it accumulates in the system, so that a person's mouth is more and more affected several days after the omission of the calomel. And if the iritis be entirely abated you need not repeat it. If it remain, keep the mouth gently affected till all the symptoms cease. Keep the patient within doors, lest the inflammation be renewed, as it very often is, by cold applied to the surface of the body while under the influence of mercury. I have known twenty people fall victims to cold while under the influence of mercury: one of these was a case of iritis.

TREATMENT OF INFLAMMATION OF THE RETINA.

You should abstract those circumstances which excite or maintain the inflammation. It generally occurs in a chronic form, and is only to be

remedied by remedying the morbid condition of the stomach, liver, and bowels, on which it depends, or which is associated with it. If it exist in studious persons, or in mechanics who contemplate bright objects, you must abstract those occasions. Moderate bleeding will generally suffice, with a strictly regulated diet, and keeping the bowels open. If the person be sedentary, he should take a little exercise, and you should act on the bowels and on the liver. When it occurs in the acute and sub-acute forms, it requires copious blood-letting; its progress is often so rapid as to defy all treatment, and it terminates in complete blindness.

There is one form of inflammation of the eyes which sometimes occurs, and which, if not very early attended to, frequently destroys the sight. It is that form of ophthalmia which occurs towards the close of typhus fever. It is attended often by suppuration if the position be not attended to; if this be changed, the bad effects may generally be prevented. The eye of that side on which the patient lies becomes greatly injected, and in one case the whole globe suppurated. Little can be done, for the patient is already so exhausted, that ordinary remedies have but little effect on it.

TREATMENT OF AMAUROSIS.

Sometimes amaurosis occurs without any appearance to account for the dimness of sight or total blindness. Most frequently there is a degree of obliquity in the eye. The pupil is generally more dilated than natural. The treatment is very various, because the causes are various.

In some cases it is connected with irritability of the stomach; in other cases with an overloaded colon.

It may occur from wounds about the eyelid or eyebrows.

Sometimes it occurs from inflammation or congestion of the brain, arising chronically; this is the most common cause of amaurosis. Whenever the patient complains to you of weakness of sight, examine the brain.

I saw a lady one morning, two days after the attack came on, and she required two copious bleedings. The appearance of her room to her was that there were a variety of colours in it; her sight was confused; in short, to use her own expression, her eyes were like a pair of kaleidoscopes.

Amaurosis sometimes arises from copious evacuations of blood.

A gentleman vomited blood and became blind; he has never recovered his sight.

It often arises from a deficiency of blood about the eyes.

I was lecturing here one evening, and suddenly I became unable to see any of the pupils, and could merely see a few indistinct imaginary objects. On my way home I called to see a patient: when I attempted to examine his tongue, I found, that I could not see it; I could see nothing but occasionally a spangle on his nose, and then a cloud, and then a spangle on his tongue, and so on. I had no sleep the night previously, and had been then lecturing an hour and a half. I went home and laid down, and took a glass of wine, and my sight soon returned.

The same thing often occurs in typhus fever; the patient, on getting up, feels giddy and blind; and if he be not again placed in the recumbent posture will faint, and perhaps die.

From these short and imperfect remarks, you will infer that you must investigate the occasion and the pathological condition of the affection, and treat it accordingly by the usual remedies.

LECTURE XXXVI.

COMMON INFLAMMATORY FEVER.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, DIAGNOSIS, AND TREATMENT OF ERYSIPELAS.—ILL EFFECTS OF WOUNDS IN DISSECTING.

TAINTED atmosphere has various effects. In some it produces an affection which puts on the character of hospital gangrene, of which I believe it is the sole occasion; in others it assumes the form of erysipelas; and in others that of inflammation of the veins. These are its most common results.

Erysipelas may be connected with this and with other peculiar remote occasions: it is sometimes mixed up with genuine typhus fever.

ERYSIPELAS

is nothing, abstractedly considered, but inflammation commencing in the skin and spreading to the adjacent cellular membrane. It is pretended that it is a peculiar affection of the system, but in truth the skin is inflamed because it is predisposed.

If you ask a nosological practitioner what erysipelas is, he would say it is St. Anthony's fire; and if you pursue the question further, and ask what that is, he would reply that it is erysipelas; so that the logical inference is, that erysipelas is nothing more or less than erysipelas: an unquestionable truth, but thereby hangs a tale—a lecture of an hour's duration at least.

Erysipelas is an affection of very great importance, and I shall illustrate its pathology by a strict reference to facts.

Viewing it for a moment as a local affection, we might define it to be a diffused inflammation which begins in the skin, and is preceded or followed by fever, which sometimes communicates itself to the adjacent cellular membrane, and terminates by simple effusion, suppurative effusion, or mortification.

It is inflammation, properly speaking, of the skin, the structure alone

modifying its external character; and that inflammation arises precisely in the same way as other inflammations: sometimes it creates fever as an effect; sometimes it arises secondarily,—fever preceding the affection of the skin, which becomes inflamed because it is a predisposed part.

It is not then a peculiar affection.

A political writer has said that power is often brought to as narrow a point in republics as in absolute monarchies. This used to be the case in the republic of physis; but information is now more diffused, and the power of public opinion is more speedy in overturning error and establishing the truth. No opinion will stand unless it is correct. If it be true, it has nothing to fear: if it be false, and bear on the public welfare, the sooner it is destroyed the better.

But let us withdraw our view from the external pathology to the far more important internal pathology of erysipelas; and I shall first speak of the—

PREDISPOSITION TO ERYSIPELAS,

which is—

1. Hereditary.

A case is related in the *Medical Communications*, vol. 2, p. 22, by Dr. Bromfield, of a child born in the British Lying-in Hospital, with erysipelas of the face, legs, and hands; and the ends of the toes were covered with black sloughs. The mother had breathed the tainted atmosphere of the wards of that institution.

The tendency to erysipelas is very frequently connected with original structure. Remarkably delicate skin and mucous membranes render individuals especially prone to it. Old persons, in whom the skin becomes constricted and weak, are prone to it.

But it never appears on the surface without some indication of irritation of the mucous membrane of the alimentary canal. I only repeat this from its great importance, and because it is not understood.

Mr. Abernethy has written some observations on what he calls disorder of the digestive organs; and almost all the affections he refers to that cause are referrible to irritation in the mucous membranes, and yet he has not even glanced at the doctrine. He deserves great praise for having called the attention of the profession to this subject, but his views are indistinct, and his practice dangerous, because under one abstract term he confounds different affections.

The tendency to erysipelas is very frequently—

2. Acquired.

Galen was aware that bilious persons are liable to it. The biliary secretions are hardly ever disordered without the mucous membrane of the alimentary canal participating in the disturbance. Drunkards are very prone to torpid liver and irritation of the mucous membrane of the alimentary canal, and on that account are very liable to erysipelas.

All those affections which break up the general health, and at the same time affect the skin, stomach, liver, and bowels, predispose to it, as typhus, scarlet fever, small-pox, &c., when they are severe. Hence individuals convalescent from these affections become liable to an attack of it from exposure to the—

REMOTE OCCASIONS OF ERYSIPELAS.

These are either common or peculiar.

One of the common occasions is—

1. Cold.

If it be applied generally, so as to chill the whole surface, and if excitement follow and the skin be predisposed, erysipelas takes place. But cold operates sometimes locally. This is the case in sailors, ploughmen, &c., from their legs being splashed in wet weather. Sometimes erysipelas occurs in the face, from a current of cold air: nothing is more common than this in the wards of an hospital. Sometimes sudden great alternations of temperature will bring it on. This is often seen when the mornings and evenings are cool and the days are intensely hot.

2. Heat or a high temperature sometimes brings it on. Sometimes it operates universally as a stimulant, and the skin, being predisposed, becomes inflamed. Sometimes it operates locally.

I knew a soldier who had two attacks of erysipelas from the direct influence of the sun's rays on his face, the skin of which was powerfully predisposed.

3. Mental emotions, either stimulant or depressant, may produce it.

4. Offending ingesta are a very common remote occasion of erysipelas in infants.

Confectionery, fruit, &c. produce and increase irritation of the mucous membranes, and erysipelas appears on some part of the surface; and in children, in infants especially, from the extreme delicacy of the skin, it sometimes travels from one to another part till it has at last visited the whole surface. It often arises in the same way in adults, from a draught of sour milk, &c. The skin and mucous membranes being

irritated, the upper lip often swells, and itching of the nose arises from the same cause; for, in fact, the skin and mucous membranes are a continuous structure.

5. Sometimes external injuries may be the remote occasion of erysipelas.

I saw an apprentice of a medical friend of mine who had a blow on the head with slight laceration of the integuments. He had some degree of irritation of the alimentary canal at the time. He became feverish, and staggered as if he were intoxicated, and erysipelas followed in a severe way.

A surgeon, before performing an operation, should be sure that no irritation exists in the mucous membranes of the alimentary canal, and that their functions and those of the skin are in a healthy state. I have seen such lamentable effects, especially in children, when some disorder of the mucous membrane has been overlooked, that I must again point out to you the intimate connexion between physic and surgery, the principles of which are inseparable.

Sometimes erysipelas arises from the common operation of vaccination, sometimes from the bites of leeches, when the skin and alimentary canal are disordered.

6. Erysipelas sometimes arises from the influence of mercury, which acts very powerfully in several ways.

1st. It increases the sensibility of the nervous system to the highest possible degree.

Look at an individual employed as a water-gilder: exposed to the fumes of mercury, he becomes so irritable that when a door is opened he starts as if he were electrified.

2d. When pyalism is created it produces an increased action of the heart, which we call excitement.

3d. It produces prostration of the muscular system.

4th. It produces local irritation about the mouth.

And from these circumstances erysipelas of the face frequently arises, especially when the patient breathes the foul air of a venereal ward.

7. It sometimes arises from a certain infection or local taint of atmosphere.

Many writers have deemed it contagious, or communicable from one person to another. But this I doubt, and deny as far as my experience goes. It often occurs in the same ward or house, because the individuals all breathe a similar tainted condition of the air. What occurs in the Fever Hospital is applicable to other large hospitals. In autumn, when the wards are crowded and the air stagnant, when in fact the air

rendered foul in any way is not removed and replaced by fresh and pure air from without, erysipelas is almost certain to appear, and affect different individuals between whom no intercourse exists. In one, a leech-bite, in another an indigestible meal, in a third a blast of cold air, produces this affection; in others it has no such obvious remote occasion.

As to the chemical composition of this state of atmosphere I am ignorant of it; it seems to be produced, 1. By the odour of the stools; 2. By the odour of the urine; 3. By the odour of the skin; and 4. By the odour of the breath;—tainting the atmosphere. It was much more common in the lower than the upper wards of the Fever Hospital, because the air travels much more rapidly above than below, and the upper rooms admit of a more perfect ventilation.

I instituted a strict plan of cleanliness and ventilation; and as this would not do, I had convalescent wards to keep the other wards thinner, and only two slight cases occurred during my attendance afterward. No doubt if the wards were less crowded and better ventilated it might be kept out altogether.

When erysipelas does occur in any of these modes it puts on different characters.

The *first* I call phlegmonoid erysipelas;

The *second*, erythematic erysipelas; and—

The *third*, specific erysipelas.

The character and degree of inflammation is modified by the constitution of the patient, as well as by surrounding circumstances, and the remote occasions from which it proceeds. This accounts for the different forms which erysipelas assumes.

SYMPTOMS OF PHLEGMONOID ERYSIPELAS.

Phlegmonoid erysipelas arises only in strong robust subjects, and is that form which so frequently occurs in the country. Strength is its modifying circumstance. It is distinguished by the following symptoms. The erysipelatous part, which may be the face, or the upper or lower extremities, &c., is of a bright red colour; there is a bright diffused flush over the affected part, which generally swells rapidly and considerably, and becomes thicker and less pliable than other parts. It is attended by a burning stinging heat of the part; by a pulse quick, full, and expanded; by a hot skin, by a furred but moist tongue. Vesicles generally arise during its course, but seldom at an early period.

In its progress it is very liable to spread to the cellular membrane

beneath, and suppuration is very apt to take place. Sometimes in very severe cases, especially if ill-treated, sloughing occurs.

In this case there are generally some proofs of slight irritation of the mucous membrane of the alimentary canal, and sometimes there is inflammation of other parts internally, arising on common principles. Therefore, never presume that the affection is local and external, but investigate the state of the brain, bowels, and liver especially.

SYMPTOMS OF ERYTHEMATIC ERYSIPELAS.

Erythematic erysipelas occurs, not in strong, but in weak subjects. Weakness is its modifying circumstance.

Many men of very excellent moral character think that all the people in London are weak. All that we have to do with the opinions of men is to put them to the test of our observation. In things which relate to the health and life of our fellow-creatures, we have a right to do it, and we must appeal from the opinions of men, from the dogmas of writers in past ages, to the tribunal of nature, and there substantiate or there refute them. There are in London people of many classes. Strong persons abound there—persons who are well clothed and fed, and who are robust; and in these the phlegmonoid form of erysipelas occurs. A far more common class in London consists of persons whose health is broken up by the influence of bad air, by poor and by complicated diet: they drink tea and spirits largely, their habits are dissolute, and they sit up late at night. In erythematic erysipelas the local external inflammation is not of a bright red, but of a dull mulberry red, or of a dusky coppery colour. There is less swelling in the affected part, and vesication generally occurs earlier than in the phlegmonoid form. The heat is generally only moderate on the surface, the skin is less hot and more relaxed, the pulse, though as quick, is far more soft and compressible, the respiration is as quick but more weak, the voice is more feeble, and there is greater prostration of strength than in the other form. A patient in phlegmonoid erysipelas gets up better in bed. And what occasions the difference? The reason is that there is a higher degree of irritation of the mucous membrane of the alimentary canal in this case. Nor is this all, but a special bronchial affection exists, and proves the reason why the colour is not bright red, but a dusky mulberry tint on the face, or on other parts; it impedes the natural change of the blood in passing through the lungs.

The first two or three days the tongue is generally moist, with a yellowish-white or dirty fur in the centre. In a few days sordes appear

about the teeth, and the tongue becomes brown and glazed, and the case puts on symptoms of typhus, attended by a congested state of the mucous membrane of the bronchia, and a sticky varnish upon its surface which prevents the oxygenization of the blood. This is the reason why the swelling is less considerable, the heat less intense, &c.

Erysipelas, then, whether phlegmonoid or erythematic, is not a simple affection: it is attended not only by external but by internal inflammation, which is, in a slight degree, local simple excitement of the mucous membrane of the alimentary canal: but in erythematic erysipelas there are distinct indications of a special bronchitis. This being the fact, of which I am confident from observation, we must not take a mere external view of the subject. Suppose a patient to die under phlegmonoid or erythematic erysipelas; if any one should imagine the erysipelas, the mere inflammation of the skin, to be the cause of death, he will have a very erroneous notion of the subject.

In the progress of phlegmonoid erysipelas different organs are affected; and no case of erythematic erysipelas occurs without a bronchial affection, which causes it to put on a typhoid character, with a dusky lip and cheek, &c. It almost universally happens that a part of the lining membrane of the bowels is affected at the same time; the stools have the characteristic marks of muco-enteritis; there are pain and tenderness increased by pressure, and the patient dies. It is generally fatal from inflammation of some important part. If the patient be a drunkard, especially, you often find proofs of organic disease of the liver.

This obtains in fatal cases after surgical operations. I have seen the stump examined in fatal cases of erysipelas after amputation, as if the cause of death were to be found there; but on examining the body internally a mass of inflammation has been found. This is the case in every instance. I am glad to find that my doctrines are making their way among the pure surgeons of London, and I trust they will go on to investigate the subject, and prove how far my opinions are correct. The only way to arrive at the truth of them is to make examinations after death. Take nothing for true merely on my word. I say nothing but what I firmly believe to be true. I never in my life imbibed an opinion which I did not put to the test of my own observation, and I recommend you to do the same. As long as I have the power I will observe and think for myself. I entertain no hostile feelings towards any man breathing. I am anxious to obtain the approbation of my professional brethren if possible; but I will never allow my respect for individuals to induce me to countenance errors of opinion or practice. No man should practise physic, and especially no man should lecture

on it, who has not independence and firmness of character. It is astonishing that men of good character should take up as they do, and act passively (if I may be allowed the expression) on the opinions of individuals, and of writers in the dark ages.

SYMPTOMS OF SPECIFIC ERYSIPELAS.

I call it specific, because it arises in conjunction with genuine typhus fever.

Typhus fever arises from peculiar remote occasions, and puts on an intermittent, a remittent, or a continued character; and sometimes in the progress of the remittent form, sometimes in the progress of the continued form, erysipelas arises. I have seen it occur slightly also in the intermittent form.

If it occur in the beginning of the continued form of typhus fever it is of no great consequence. If it occur in the middle, patients frequently recover; if towards the close, the case is generally mortal.

It frequently attends the remittent form of typhus fever.

I attended a lady (the mother of a pupil of mine) who laboured under continued typhus fever. From the influence of purging by calomel and castor oil, the case put on a remittent character. In the first instance the fever was complicated with erysipelas, which continued with the remittent form, but soon disappeared under the treatment which I shall presently mention. My pupil's brother laboured under continued typhus fever in the same house.

I saw a lady who had ague, which changed its type, and became remittent, and was complicated with erysipelas.

These cases are not uncommon. In the treatment you will see the importance of the distinction. If you were to treat intermittent fever as remittent fever many patients would die. If you were to treat remittent as intermittent fever almost every patient would die.

When erysipelas arises in typhus fever, in one case it may have the phlegmonoid, but far more frequently it has the erythematic, character.

These are the leading forms of erysipelas. The phlegmonoid is sometimes seen in London, but far more frequently in the country. The erythematic more often occurs in the London Hospitals. The specific is occasionally met with, arising apparently out of typhus fever.

Some writers have distinguished between erythema and erysipelas. When the inflammation of the skin arises primarily they call it erythema; when it follows the establishment of fever they call it erysipelas.

But the affections are one and the same as far as the treatment is concerned.

In the second volume, p. 25, of the *Edinburgh Medical Journal* is a very good account by Dr. M'Mullin, of another affection having some peculiarities, and called *erythema mercuriale*; and a good account of the same in Pearson on *Lues Venerea*, second edit. p. 166.

In the second volume of the *Medical Communications* is an exceedingly good account by Dr. Garthshore of a species of erysipelas which occurred in infants at the British Lying-in Hospital. It chiefly attacks the delicate children of weakly mothers, especially of those who are addicted to the abuse of spirits. It arises as a vesicular affection of the *labia pudendi*, with redness around the vesicles, and is almost invariably associated with some irritation of the mucous membrane of the alimentary canal.

This form of erysipelas has in delicate children a tendency to run into gangrene, and if it be treated locally it sometimes ends in sloughing and death; but if you act gently on the liver, put the stomach into proper order, restore the functions of the skin, allay the irritability of the part, and put the child into a fresh atmosphere, you will generally remove it.

DIAGNOSIS OF ERYSIPELAS FROM PHLEGMON.

Topically considered there is only one affection which you can confound with erysipelas. This is what is called phlegmon. The distinction is easily made by attending to the following facts:—

1. When a phlegmon or common boil arises, the swelling is more prominent and circumscribed than in erysipelas. It consists of inflammation in a portion of the cellular membrane, and it is confined because lymph is effused round its base.

In erysipelas no lymph is effused around the base, and therefore it spreads; and the pus when formed burrows and extends under the integuments. The swelling is less prominent, more diffused, and less circumscribed.

2. In phlegmon the redness remains during the pressure of the finger.

In erysipelas the redness disappears under pressure, but returns after the removal of the finger.

3. In phlegmon the redness is gradually lost in the colour of the surrounding healthy skin. It is shaded off delicately as if painted.

On the contrary, in erysipelas the redness has a determinate, irregular,

abrupt edge, very much like the red zigzag line which you may see in coloured maps to mark the boundaries between one county and another. This is generally the case, though there are some exceptions in persons who have very fine skins.

4. Again, in phlegmon the pain is of a pulsating kind in its progress.

In erysipelas the pain is of a sharp burning or tingling kind.

5. You must recollect that the seat of genuine erysipelas (locally considered) is the skin ; that of phlegmon is the cellular membrane.

6. Phlegmon terminates most frequently by sloughing of a portion of the cellular membrane, which is limited by the effusion of lymph.

But in true erysipelas it terminates by effusion, and the pus is diffused.

TREATMENT OF ERYSIPELAS.

You see, then, how important it is not to be deceived by mere names ; for under the name of erysipelas different conditions are comprehended. This accounts for the discrepancies of opinion and practice in these cases. One has tried bleeding, another bark, another mild aperients ; one small doses, and another full doses. They all forget the conditions on which the symptoms depend, and the circumstances under which remedies are applied and which modify their application. Hence it is that differences and inconsistencies occur, which can only be set to rights by a reference to facts. It is a fatal mistake to pretend that erysipelas is one and the same affection, and that it occurs under the same circumstances ; any practitioner who treats it with this view will be very unsuccessful ; for it occurs under circumstances so different as to be pathologically and practically divisible into important varieties. Thousands and tens of thousands of lives have been sacrificed to mere abstract names, which frequently contain under an agreement of sign a great diversity of things signified.

If you recollect and recognise the distinctions I have drawn, you will treat erysipelas with great success. All the forms of this affection occur in London ; but unless they are distinguished from each other the cases never can be well treated.

TREATMENT OF PHLEGMONOID ERYSIPELAS.

This is a form which occurs with a high degree of fever, and requires the same treatment in London as in the country.

1. The patient bears general blood-letting remarkably well.

A man was brought into the Fever Hospital from whom thirty-five ounces of blood were abstracted at one time. In that case one leg and foot were inflamed.

Sometimes copious blood-letting is beneficial in the onset ; but generally moderate bleeding will be sufficient.

2. Mild aperient medicines which move the bowels without irritating the mucous membrane of the intestines will be useful.

3. Blisters are extremely beneficial ; they tend to arrest the progress of the affection : especially a blister applied to the nape of the neck, after evacuations by the lancet or purging, when erysipelas attacks the face. Some American physicians use blisters over gangrenous parts.*

A pupil of mine the other day had erysipelas of the face, and its course I am sure was cut short by a blister to the neck, aided by castor oil.

I know no local application which has the least influence in arresting the extension of erysipelas. I have tried all those which have been recommended, but never have found them of any use. Sometimes a little powdered Indian arrow-root is soothing to the patient ; it may be dusted through thin muslin on the face. I have given up all other local applications but this, which is the best I have tried.

A remarkable fact is, that although erysipelas sometimes attends a blister applied to an individual apparently in a tolerably healthy condition, yet I have never known it attack a person when a blister has been applied in a case of erysipelas.

Bleeding, purging, a bland diet, and absolute rest, with the most perfect quiet, are the means, then, on which you are to rely in this form of erysipelas.

If there be any vesications, and they be rather dark, putting on a gangrenous appearance, a poultice is sometimes of very great benefit. But a poultice is no trifling circumstance. I have known one fatal in erysipelas, because it was applied while smoking hot. It should be only comfortably warm.

TREATMENT OF ERYTHEMATIC ERYSIPELAS.

When this occurs the skin is almost invariably dry and husky, as if it had been sprinkled with bran ; or it has a withered feel almost like dried parchment ; and if you see the patient at the onset nothing has so good an effect as—

* This assertion is inaccurate. The blister is applied over the surface directly contiguous with, but not a part of, that affected with gangrene. — AM. EDIT.

1. A tepid bath at about 96°. Fahr. Keep the patient in it from twenty minutes to half an hour, till the skin is thoroughly soaked (for your object is to get the cuticle off) ; then soap the whole skin with Windsor or some such soap, wash it off and dry the surface carefully, and lay the patient in an airy bed, lightly covered, avoiding a chill, and also too great heat. Do this skilfully, and you will see the patient reap very great benefit from it.

2. If the affection of the mucous membrane of the intestines be local simple excitement, and there be no pain on pressure over the intestines, there will be no need of leeches to the belly. If there be proofs of inflammation of the mucous membrane of the stomach and intestines, apply leeches till it is removed.

3. The mildest laxatives should be given. The best is a grain of calomel and three grains of rhubarb, followed up by a little cold-drawn castor oil. You may repeat the calomel every second night and the castor oil every day. Open the bowels three or four times daily ; but if there be a tolerable flow of bile, or the patient be exhausted, you may omit the calomel.

4. Blisters applied at a distance from the part affected, after bleeding and purging, certainly do good. If, for instance, the face be the seat of the affection, a blister to the back of the neck, or to the epigastrium, is of very great advantage. Be excessively careful about the drinks, and the diet which should be bland. Forbid all fruits.

If you watch the effects of saline draughts and antimonial medicines, you will perceive that they are not simple things, but that their effects on the mucous membranes are sometimes most important : they are very frequently fatal by irritating the mucous surface of the alimentary canal. At all events, if they occasion nausea or the least sickness, give them up. You may give coloured water as a placebo ; for it is right, on account of the imbecility of the present state of mankind.

Do not carry your evacuations too far in the erythematic form : if you do the patient will generally die ; if not, he will generally recover. The diet should be bland, and the patient should be put into a fresh atmosphere : for if he breathe a tainted atmosphere he almost invariably will die. By attending to these rules you will scarcely lose a patient in either of these forms. I never lost a patient under erythematic or phlegmonoid erysipelas if he breathed a pure atmosphere.

There may be some cases where you are required to give wine. In the advanced stages, when the prostration of strength is very great, some diffusible stimulus may be absolutely necessary. In all cases, however, watch its effects. If it make the patient restless ; if it in-

crease the frequency of the pulse : if it increase the heat on the surface, it does harm. If it tranquilize the patient ; if it diminish the frequency of the pulse ; if it reduce the heat on the surface, it does good. Some individuals, as habitual drunkards, require that a moderate quantity of wine or brandy be allowed in the advanced stages ; but you should recollect that pure ardent spirit is to them what ordinary drink is to other individuals.

Be cautious in the administration of bark ; do not give it because it is recommended by systematic writers, and sanctioned by schools and colleges.

Be exceedingly on your guard if you prescribe them ; for the wine and bark system is of all the most fatal practice generally, though it is the common practice in London.

It is strange how men sometimes go on to grey-headed old age without profiting at all by their experience. One feels a certain reverence for grey hairs ; and yet I meet in practice with men of advanced years, with intellectual faculties superior to my own, and yet as young as infants with respect to practice.

I met such a gentleman some time since attending a case of erythematic erysipelas with most distinct indications of inflammation of the mucous membrane of the alimentary canal. He was giving wine and bark. I pointed out to him the red tipped tongue, the heat over the belly, the tenderness of the epigastrium, and that the patient was getting worse and worse. Here, I said, is inflammation increased by wine. Here are facts, and I am not influenced by mere names. Are wine and bark the remedies for inflammation? Now this individual did not think for himself, but surrendered his judgment to the opinion of others. He very unexpectedly gave way to me ; the wine and bark were omitted ; if not, I would have abandoned the case. I never would surrender my judgment to any individual ; but if I were confident I were right I would not quarrel with him, but would retire. In this case leeches were applied, and other means which I have already recommended were resorted to, and the whole character of the case was quickly changed.

Thus many men go on year after year, under the most glaring evidence of their error.

A friend of mine saw five individuals who had erysipelas in one house. They were treated by wine and bark, and all died. I never would have any thing to do with a case in which wine and bark were administered for the mere name of erysipelas, but would retire from it altogether rather than sanction such an error of practice. The success

of a man in practice depends upon the precision with which he applies his remedies; and the precise administration of remedies depends upon the correctness of his opinion of the condition or conditions upon which the symptoms depend. The conditions on which the symptoms of the three varieties of erysipelas depend, are different, and require to be treated accordingly. The truth of this observation I believe will be confirmed at the bed-side of the sick.

TREATMENT OF SPECIFIC ERYSIPELAS.

If the specific form of erysipelas be complicated with continued fever, I have never seen bark do good, especially if the tongue be dry. And in the remittent form I would never give wine, unless the patient be in a state of collapse, and then he sometimes requires a stimulus to keep him from sinking.

When erysipelas occurs with the remittent form of fever, it is very surprising how fast the bark stops it. If you give bark, especially the sulphate of quinine, during the remission, when the pulse falls (which it generally does about four o'clock in the morning), the skin becomes cool and the tongue soft and moist,—when there is, in short, a distinct and complete cessation of the fever, which continues three or four hours, more or less, both the remittent fever and the erysipelas disappear in the course of a day or two; and this is the reason why the efficacy of bark in erysipelas has been so much extolled.

Sometimes it is beneficial in the other forms of erysipelas when the excitement has been high, and collapse occurs with a copious effusion of pus, but never in the onset of phlegmonoid symptoms; and never in the onset of erythematic erysipelas, and very rarely in its progress.

Nothing is of greater consequence than a pure atmosphere. No cordial is at all to be compared with it; and I repeat, that I believe erysipelas would generally be fatal under any treatment in a foul air.

ILL EFFECTS OF WOUNDS IN DISSECTION.

It is well known that many medical men in dissecting puncture their fingers, after which inflammation of the part arises attended by considerable fever. I have seen several examples of fever which have arisen from this circumstance, and all these cases have had the character of a specific fever, exactly resembling typhus fever, except that it does not become intermittent or remittent, but always assumes the continued form. I am aware how dangerous it is to draw a sweeping inference

from a small number of observations; but if I am guided by the facts I have seen I should say the affection to which I refer, arises from the introduction of putrid matter occasioning a peculiar fever.

But the effects of puncture in dissecting may be referred to three heads:—

1. Slight local affection of the fingers.

2. Common irritation. A puncture gives rise to inflammation of the part, followed by a slight or a severe degree of common inflammatory fever.

Some friends of mine have seen this fever arise from other wounds besides puncture. I saw it arise in one case from tearing out a portion of the great toe.

3. Peculiar fever; of which I have seen twelve cases. They have had all the same character. If I put out the consideration of the local affection, and the red tender line running up the arm, and the tenderness of the axillary glands, I should have said it had the precise characters of typhus fever, and I should say that the remote occasion is peculiar.

Two circumstances concur in the production of this fever: the predisposition and the remote occasion.

PREDISPOSITION TO PECULIAR FEVER FROM WOUNDS IN DISSECTION.

It is well known that it occurs most frequently towards the close of a session, when the pupils are reduced in strength from irregularity of meals, keeping bad hours, intense study, a deficient quantity of sleep, and breathing too long at one time the tainted air of a dissecting room.

THE REMOTE OCCASION OF PECULIAR FEVER FROM WOUNDS IN DISSECTION

is the application of putrid matter.

Magendie has made some experiments on this subject, from which it appears that the putrid matter of fish is the most pernicious of all.

Gasperi introduced putrid matter into the blood of an animal, and it became affected with low putrid typhoid fever.

This is the value of principle. If a man possess principle he will be at no loss to treat disease with precision and promptitude. No opinion will fall which is erected upon facts; you will find they are a firm foundation to build upon.

TREATMENT OF PECULIAR FEVER FROM WOUNDS IN DISSECTION.

The treatment of typhus fever is precisely applicable to the peculiar fever which arises from the absorption of putrid matter, except the local treatment. The fever generally sets in with much higher excitement than continued typhus, but in the end I think you could not distinguish the one from the other.

If the excitement be high you may bleed in the first instance with advantage ; keep the bowels open ; put the patient in a fresh atmosphere, and let the diet be bland. If the fever be not high, and the bowels and head not much affected, you may apply leeches-instead of bleeding from the arm. The brain generally becomes affected ; sometimes it passes on to inflammation, and then the fever is ardent if the inflammation be intense ; and not only the head, but the air-passages, the bowels, the liver, and the stomach are affected.

The local treatment should be soothing.

1. Apply a poultice.

2. The position of the arm should be attended to. It should be elevated, and laid on a level with the shoulder in order to favour a return of blood.

3. Another point to observe is whether matter forms in any part. The tension is mostly insufferable. Free incisions should be made early. I have seen individuals saved by making deep incisions in the situation of the pectoral muscle when matter has been collected. It is astonishing how great pain is produced by the mere tension of parts of matter confined, especially about a nail or a joint. Sometimes the matter is collected in the arm ; sometimes in the axilla ; sometimes under the pectoral muscle.

PROGNOSIS OF PECULIAR FEVER FROM WOUNDS IN DISSECTION.

Of the several cases of this kind which I have now seen only two have been fatal.

One case, which occurred about three years since, was fatal from too much having been done. Five medical men attended the patient, but they had no consultation. One called and recommended one thing ; another called and advised something different ; and so on.

Such treatment is almost always fatal. Unity of opinion and unity of practice are especially necessary among medical men.

The other case was fatal from the misconduct of the patient's mother.

He had a puncture and was getting well till his mother came: she secretly gave him wine day after day. The day after she came his pulse rose to one hundred and forty, and his brain, air-passages, and bowels, became affected and inflamed, and he sunk rapidly and died. It was only by accident found out that she had given him wine.

This points out to you the necessity of observing what is brought into a sick room, and of inquiring into the moral character of the nurse.

But a point of far greater importance than the cure of these ill consequences of puncture is, the—

PREVENTION OF THE ILL EFFECTS OF WOUNDS IN DISSECTION.

And the best way to prevent them is to sustain the general strength by keeping good hours, by cleanliness, by the occasional use of a tepid bath, by taking a sufficient quantity of sleep, and by regularity at meals. It is not till the surface has become faded and the mucous membranes irritated, that persons become subject to this fever from the absorption of peculiar virus.

Another preventive measure of much importance is suction. The late Mr. Edward Grainger had considerable faith in this. Suction of the punctured part should immediately be adopted and continued for a considerable time; then apply caustic: but recollect never to apply caustic after the inflammation has come on, for then it will do no good, but great mischief. Dr. —, of Edinburgh, who had seen many cases of ill effects after puncture, thought a point of the greatest consequence was courage. If the individual be afraid it sinks his strength, and then the poison operates more readily.

Inflammation being once set up, you have two great objects in view; —to allay the local irritation, and to prevent its effects on the constitution.

LECTURE XXXVII.

PECULIAR FEVER.

PREDISPOSING AND REMOTE OCCASIONS OF TYPHUS FEVER.
INFLUENCE OF THE DOCTRINE OF CONTAGION.

IN the preceding lectures I have considered the nature and pathology of what I called common fever.

I have endeavoured to show that common fever arises from four sorts of ordinary agents:—from depressants, from irritants, from stimulants, and from interruptants. I have attempted also to prove, from an appeal as well to the symptoms and the effects of remedies during life, as to the appearances on dissection after death, that all the various consequences of these four sets of common agents may be legitimately referred to three leading varieties of fever:—common congestive fever, common simple fever, and common inflammatory fever. I now come to the consideration of peculiar agents or occasions:—those remote occasions which have not only the properties of the common agents, but possess peculiar properties; and I shall endeavour to show that though they have peculiar properties by which they are most remarkably distinguished, yet that, like the ordinary agents of nature, they produce three leading varieties of fever:—congestive fever, simple fever, and inflammatory fever. My object will be to prove, in short, that, however the subject may have been complicated by our systematic writers, the internal pathology of all fever is comprised under the varieties of—congestive fever, simple fever, and inflammatory fever; but that when these forms of fever occur from the agency of peculiar remote occasions, they are blended with certain peculiar effects from the peculiar agents, as the efflorescence of scarlet fever, the rash of measles, and the eruption of small-pox.

These peculiar occasions or agents are divisible into two kinds, certain infections and certain contagions.

Infection is a local taint of atmosphere originating without the body.

Contagion is a specific virus originating within the body,—as far as facts are concerned.

It is proved as far as it can be that persons affected by contagions propagate those affections; and the communicability of the affection is therefore the true test of a contagion. But it is not yet proved that persons tainted by infections propagate the disorder. It is not proved that infections ever become contagions: that a disorder unquestionably and unequivocally proceeding from infection has ever in any case communicated itself by the creation or formation of contagion. This, however, is the presumed doctrine of the schools and colleges; but, like many others, it is rather a prejudice than an opinion, a notion taken up and maintained without due examination. And this more especially obtains in regard to—

TYPHUS FEVER.

In this lecture I shall endeavour to investigate the origin of typhus fever, and to ascertain whether it be communicable from person to person: and in my next lecture I shall consider the symptoms, the morbid anatomy, the pathology, and the treatment of typhus fever, and show its probable identity with yellow fever and plague.

It is by their effects only that we are acquainted with many subtile energies of nature; the remote occasion of what is called typhus fever is one of these.

I believe that it is an exhalation connected with certain states of the earth and air: a miasm generated on many parts of the surface of the globe,—which produces an intermittent, a remittent, and a continued form of fever; each form having a peculiar set of symptoms, and each passing and repassing into the other forms, so as to completely identify them as mere variations of one and the same disease.

In some parts of the world the remittent form of fever is called typhus fever; but in most places the continued form of fever alone has that name applied to it. Typhus fever, as used by those who adhere to the nosological arrangements of Dr. Cullen, is an exceedingly vague term. Many persons adhere to a system founded upon words, not on things: on symptoms, not on conditions; and if you ask them for a real, and not a nominal, definition of typhus fever, they cannot give you one.

But to speak the truth, we have nothing which approaches to a correct definition of typhus fever. That of Cullen is adopted and upheld by scholastic and collegiate authority, which, almost always lagging far behind the spirit of the age, sits in its monkish shroud

covered by the shade of ignorance, and starting like a guilty thing at the light that disturbs its repose.

Truly we have our monks in the science of medicine, who, inhabiting the gloomy cells of schools and colleges, believe nothing but what is written in black-letter books—who look not on nature with a view to be taught by her: who neither contemplate the magnificent spectacle of the universe as a whole, nor examine the minutiae of its separated parts. But my wish is to rouse you to independent observation and reflection, that you may contrast the simple and beautiful truths of nature with the complicated sophistries of art. Once more, therefore, I call upon you to forego all speculative prejudices, and to listen attentively to a detail of facts and legitimate inferences, as I consider what I am about to offer in this lecture to be.

To return:—it is in vain to look to Cullen for any distinct account of fever: he knew nothing of the matter. Look at his so-called definition of what he denominated fever.

The following is his definition of the class—

PYREXIA.

“After shivering a quick pulse, increased heat, disturbance of many of the functions, diminution of strength, especially in the limbs.”

Then comes the definition of the first order of the class pyrexia.

FEBRES.

“Pyrexia, preceded by languor, lassitude, and other indications of debility, without any primary local affection.”

This is the peculiar clause of the order,—“without any primary local affection.” But did any man ever see any case of fever without any primary local disorder? Certainly not; and the truth is, that this attempt at a definition is nothing but rank nonsense.

Then Cullen defines the genera—synocha, typhus, and synochus—of the order febres, of the class pyrexia.

SYNOCHA.

“Heat very much increased, the pulse quick, strong, and hard, the urine red, the functions of the mind little disturbed.”

All these symptoms occur under the first order,—febres, in which

we are informed that there is no primary local disorder. But did any man ever see a case in which the heat was very much increased, the pulse frequent, strong, and hard, and the urine red, without any local disorder? Never, I will venture to say.

Cullen thus defines—

TYPHUS.

“A contagious disease; the heat but little increased, the pulse small, weak, and in general quick, the urine little changed, the functions of the mind much disturbed, great prostration of strength.”

But did any man ever see a fever of this kind without any primary local disorder? And, beside, the symptoms which Cullen gives as characteristic of typhus fever are just as characteristic of every other fever in which debility has been present, and in the progress of which the brain has become disturbed.

Again, he calls—

SYNOCHUS

“A contagious disease; a fever composed of synocha and typhus: in its commencement synocha; in its progress, and towards its termination, typhus.”

In fact, he makes typhus arise out of another disease. But do we ever see a thistle produce figs? It is against all the analogies of nature, that a disease should be one thing in the beginning and another in its close. This reminds me of an anecdote which I may mention.

A lady, a pale blue-stockings, attended a lecture on chemistry, in the course of which she heard a great deal about oxygen and hydrogen, but understood nothing about it, as the lecturer was probably, like Cullen, a little unintelligible. However, after the lecture, she asked a gentleman who sat near her, “Pray, sir, what is oxygen? and what is hydrogen?” “Oh! ma’am,” replied the gentleman, “oxygen is pure gin, but hydrogen is only gin and water.”

I suppose we should be told by Cullen that typhus is pure typhus, and synocha is pure synocha, and that synochus is a mixture of synocha and typhus.

I repeat, with the most perfect confidence, that, according to the definitions of Cullen, there is no such thing in nature as synocha; that there is no such thing in nature as synochus; and that there is no such

thing in nature as typhus. And if any man will show me a case of synochus, synocha, or typhus, precisely answering to these definitions, I will give him leave to chop off my right hand, aye, and my head, too, if he will. I defy all the medical men in the world to show me such cases as are defined by Cullen under those three heads. Finding such errors as these, I must pass over them like a wheel, and crush them into atoms if I can. These are not mere idle words: the subject involves health, comfort, and even life itself; and, therefore, I must protest against the mere creations of the imagination which have no copy in nature. I shall in these remarks, therefore, avoid all abstract definitions of typhus fever.

Typhus fever, as I believe, arises from a peculiar occasion; that peculiar occasion is favoured in its operation on the human body by many circumstances, all of which constitute the predisposing occasions of intermittent, remittent, or continued peculiar fever. The effects of all the—

PREDISPOSING OCCASIONS OF TYPHUS FEVER

may be resolved into one state, namely, debility, weakness, or diminution of the powers of life.

We have many examples to prove the truth of this observation.

If an army be on the retreat, depressed in spirits, broken up in health, exhausted by exertion and fatigue, by want of food, by want of sleep, and by the influence of cold, the soldiers are powerfully predisposed to an attack of typhus fever on the application of the peculiar remote occasion. This is verified by many instances in the records of history.

In like manner, famine is notoriously the precursor of typhus fever. Physical want and mental distress then coöperate in the production of debility, which favours the operation of the remote occasions of typhus fever.

In Ireland many illustrations of this fact have occurred: indeed it has been proved several times in the last few years; for typhus fever has prevailed whenever the inhabitants have suffered much moral or physical depression from famine or other circumstances.

A remarkable example occurred in London during the year 1818. Two great agents then concurred to produce typhus fever—heat, and want which pervaded all classes in greater or less degree. In that year the remarkably hot summer which occurred produced excessive exhaustion; and the poor were almost in a state of starvation. That season, too, was favourable to the production of malaria. From these

circumstances typhus fever prevailed more extensively in London during that year than it has ever done since.

Again, fasting and fatigue debilitate the body, and in that way powerfully predispose to typhus fever. When a person is going into a house where typhus fever prevails, he should take care not to make his visit with an empty stomach, as the body is then in a state of debility. On this account, too, if an individual take a long walk in the morning, especially fasting, he is very liable to an attack of typhus fever. So, too, if an individual take a great deal of exercise, and fatigue himself much in the heat of the day, and be chilled in the evening when the air is cold, he is very apt to have an attack of typhus fever, if he reside in a situation where malaria exists. Many persons suppose that typhus fever arises from cold. They become chilled in situations in which the poison is concentrated as it were about their heads; and as the first symptom which announces the attack is chilliness, they infer that the remote occasion of typhus fever is cold.

Fear predisposes to typhus fever. A person travelling over a district where malaria arises will perhaps, if he be not aware of it, escape an attack of typhus fever; but if you inform him of it—if you tell him that he is treading upon poisonous ground, he will probably sicken, and become attacked.

The ancient Romans were evidently aware of the influence of fear in the production of disease; and they had accordingly no less than three temples in different parts of Italy dedicated to the goddess Febris. The mass of the ancient world were at the mercy of the priests; and as they did not choose to educate the people, they had recourse to certain contrivances to enable them to bare up against all calamities; and of these one was the inspiring them with courage. This often carried them far above the influence of fear, and above the influence of the various remote occasions of disease. It operated like the omens before a battle: for when the priest before an engagement predicted a victory, it inspired the most perfect confidence and courage. Impressions and prophecies often bring about the intended event, by making human beings think, feel, and act differently to what they would otherwise have done. This observation especially obtains in the most ignorant states, and among the most ignorant classes, of society. Fear is frequently an occasion of typhus fever in Rome now; and the doctrine of predestination, which prevails among the modern Turks, is a powerful preservative against the plague. On this principle charms and spells operate in curing ague. Hence we need not wonder that in former times charms were had recourse to for the prevention

of typhus fever. At the present day many individuals make use of camphor for the same purpose; and as long as they have confidence in it, it probably will have this effect, for it inspires courage; besides which, there may be something in the smell, for agreeable odours support the strength remarkably; but disagreeable smells sink the strength, so as to become the most effectual of the predisposing occasions of typhus fever. Spencer, in the "Faëry Queene," says that the knight became sickened by the poisonous fumes emitted by the dragon whom he encountered—

"The heat whereof, and baneful pestilence
So sore him 'noyd, that forc't him to retire
A little backward for his best defence."

Courage, however, is better than camphor; and hence it is that medical men seldom have typhus fever. A medical practitioner has as much need of courage as the commander of an army. He has nothing to do with fear. He has to perform his duty; and if his health, or even his life, be endangered, he must risk them, and sacrifice them if necessary, for the public benefit; and if he will not do this he has no business in the medical profession.

The fear of typhus fever is, as I think I shall frequently show, in many respects unfounded.

Want of sleep predisposes to typhus fever. Hence night nurses are most liable to be attacked by typhus fever; but other attendants are liable to it, especially if the mind be anxious or the strength exhausted.

The weather has considerable influence over the production of typhus fever. Damp warm weather, or even damp cold weather, powerfully predispose to it, by affecting the general strength.

On the whole, women being weaker than men, are more predisposed to typhus fever. But any individual, however strong, may on becoming temporarily weak be attacked by typhus fever; or the concentration of the poison may be so perfect as to act on a strong individual, as is sometimes the case. On the other hand, a weak individual may escape an attack though exposed to the remote occasion of typhus fever, probably from the dilution of the poison; for it would seem that this poison, like spirits, may be so diluted as to be perfectly innoxious. An individual having had an attack of typhus fever in a continued form, seldom has another. I have not seen more than eight or ten cases where a person has been attacked a second time. It is generally thought that a person is liable to frequent attacks of it. This

is to be attributed to the vague notions which have been entertained of typhus fever.

REMOTE OCCASION OF TYPHUS FEVER.

My former belief was, that typhus fever arose from human contagion. But I have lived to feel it a duty incumbent upon me entirely to alter that opinion. The following case affected me deeply, and first led me to review my opinion on the subject,—the opinion, I mean, which I then entertained with regard to the origin of typhus fever:—

About six years ago, and shortly after I had published the third edition of my work on typhus fever, in which I had strenuously maintained the doctrine of human contagion, I met with a case of intermittent fever. In a few days the fever became remittent, and in a few days more it put on the continued character, and the patient died with all the most malignant symptoms of typhus fever.

This case made a powerful impression on my mind, and I could not help asking myself whether it was not possible that the common ague of this country, the marsh remittent fever, and continued typhus fever, might be one and the same affection, modified by certain circumstance? I determined, at any rate, to reinvestigate the subject; for I suspected I might have taken up as a prejudice, at college, the doctrine of contagion, and might have acted on that prejudice as a sacred truth. Few men have more contemptuous views of black-letter learning, and the dogmata of schools; yet the opinion clung to me closely, and I parted with it gradually, if not with regret. I investigated the subject afresh, resolved, if possible, to arrive at the plain truth, whatever it might be; and in six years the result has been, that I am perfectly convinced that what is commonly called typhus fever does arise from malaria, or marsh effluvia; that it is intermittent, remittent, and continued; that it arises from infection; and that it does not originate from human contagion. It should be remembered that infection is not contagion. It is a state of atmosphere produced by the surface of the earth, and the air, which is limited to a certain space; and persons breathing it are subject to certain modifications of a similar disease.

It is a very humiliating thing to the human mind to detect long-established error; but it has these two advantages:—it gives a man the satisfaction of possessing the truth at last; and besides this reward, it makes him more cautious in the admission of prejudices for the future. Nothing can satisfy the human mind which contemplates the phenomena

of nature around it but the conviction of possessing the truth. The longer I have lived, and the nearer I have advanced step by step to the grave, the more I am convinced how small is the amount of that I know; and while I feel the most perfect humiliation that I know so little, I am bound to make the most public acknowledgment of the full extent of my ignorance. In fact, having discovered my error, the only reparation I can make is by such an acknowledgment.

I have sometimes been amused, and sometimes surprised, on communicating the change of my views to my acquaintances and friends; several of whom have, however, though many have not, become converts to my opinion. If I mention the subject to one man, he shrugs his shoulders, and seems as if something had stuck in his throat. If I speak of it to another, he cocks his eye into one corner, and smiles sarcastically. A third shakes his head, and swears that the doctrine of contagion is true. A fourth strokes his chin, makes a dead stand, and confesses the matter requires further consideration. If you will stroke your chins, and make a similar declaration at the end of this lecture, with a resolution to follow up the investigation, I shall be perfectly satisfied.

I shall now repeat the facts and arguments which I have used here for years, and which have found their way into print without any acknowledgment of, or allusion to, the source from whence they originated.

There are many reasons for supposing that typhus fever arises not from human contagion, but from malaria, or marsh effluvia; and the six following are, in my mind, perfectly conclusive:—

1. Typhus fever arises, in single cases, at the same time, in places remote from each other.

This is the fact in London; and not only so, but it is the fact in the country also, that typhus fever takes place at the same time in single cases, at remote situations, in places and among persons where and with whom there has been no communication or contact, or intercourse of any kind.

Does the doctrine of contagion account for this?—Certainly not.

2. It often attacks several persons at one time, and in one place, where it has not before existed.

This is a very remarkable circumstance. I have the history of fourteen cases of typhus fever in a school where no such fever previously existed. It attacked seven of the fourteen boys in one day.

Two ladies, sisters, had been in the country, during which time their house in London had been shut up. When they came to town their

strength had become impaired, and they were both attacked by typhus fever.

Does the doctrine of contagion account for this?—Certainly not.

3. When several are thus attacked, some cases generally put on the remittent or intermittent character.

Trace the history of all the cases minutely backward, and it will generally be found that the affection in some of them has put on, in the beginning, the remittent or intermittent character, between which there is a mere shade of difference, for they have some characters in common, and it is allowed, I believe by all, that they have a common origin.

Does the doctrine of contagion account for this?—Certainly not.

4. The intermittent, remittent, and continued forms of fever, with their peculiar symptoms, pass and repass into each other.

The intermittent will become remittent, the remittent will become continued, the continued will become remittent, the remittent will become intermittent.

Does the doctrine of contagion account for this?—Certainly not.

5. Typhus fever prevails most remarkably in particular places.

The common belief is that typhus fever prevails only in crowded situations; but this is not true. It may readily be shown to be a perfectly erroneous opinion, for typhus fever exists in some of the most open districts in London. It prevails in one of the best built squares in town. It prevails in parts and patches in London. With a map of London before me I could point out distinctly where it occurs: where the earth's surface is filthy, and the drains are imperfect. Here it has prevailed, passing under various names; but when the earth's surface has been cleansed, and the drains have been purified, the disease has disappeared. I could point out places where the disease almost always prevails. There is one particular district which borders on two parishes, where typhus fever has prevailed for the last sixty years, and where it still prevails. It is so marked, that on a map you might circumscribe it with a line. In the Borough typhus fever prevails remarkably.

Some time ago a family were brought into the Fever Hospital with typhus fever. The account they gave of themselves was, that an individual next door had fever, and that they visited him and caught the disease. Human testimony, however, is not always to be depended upon. The name of the family was Jay, and they lived in White Square, Clapham. The case of fever next door was one of scarlet fever, and had occurred four months previously. On further investigation of the cases of this family, I found that all but one originated in intermit-

tent and remittent fever. Running round the whole of this square is an open common sewer; and if typhus fever occur in Clapham, it is sure to be in that square.

Typhus fever prevails very remarkably in another village, which is one of the most beautiful in the neighbourhood of London.

I know two ladies who had typhus fever who were living in a very airy square. The house was built on dry ground; but there were open sewers in the square, which rendered the inhabitants liable to typhus fever.

I know an old practitioner upwards of seventy years of age, and in the whole range of his recollection typhus fever has prevailed in a certain district, and there it still is prevalent. The earth there is unclean, and the drains are bad.

I was once looking at a house which I had some thoughts of taking, but a medical man warned me against it, as there was always typhus fever there, and on that account a family had just left it. It was in a very airy district, but malaria prevailed there.

I could mention many other parts where it prevails, but these may suffice.

Is this fact explained upon the doctrine of contagion? or can it be explained upon that doctrine?—Certainly not.

6. The rise, progress, and decline of typhus fever are connected with certain states of the earth and the air.

To give a few examples:—typhus fever has prevailed remarkably since April, 1824, in and about London, but certain places have been remarkably exempt from it; for example, Islington, Wimbledon Common, and the higher parts of Kensington; but it has been exceedingly prevalent in some of the lower parts of Kensington. And in all these situations which have been exempt from typhus fever, the soil is dry and gravelly.

In one part of Norfolk there is a district of which several thousand acres are sometimes covered by a continuous wave, and when the water subsides, leaving the slime exposed to the sun, then continued, remittent, and intermittent fevers occur very remarkably. In the period I have mentioned, since April, 1824, all these parts were under water; and while that was the case not a single instance of typhus fever occurred.

Typhus fever prevails remarkably with certain states of the earth and air.

I attended a very respectable tradesman labouring under a remarkably bad attack of typhus fever. It was such a case as would have been called plague in the time of Sydenham. He had knotted glands, and

carbuncles, and black petechiæ. He was one of four or five individuals who transacted some business in a nobleman's kitchen; a filthy fluid had overflowed that kitchen; he was sickened at the time, and in common with all the other individuals had an attack of typhus fever.

A friend of mine had the drains in his house cleaned, and during the operation the inmates of his house were attacked by typhus fever. This gentleman's brother died of typhus fever. He ordered a dirt-hole in his house to be cleared out, and himself and three inmates were attacked by typhus fever.

Two ladies, sisters (to whom I have already alluded in this lecture), went into the country, and during their absence the house, which is situated in one of the squares, was shut up. When they came home they were both attacked by typhus fever.

There is one house in the Borough where typhus fever has prevailed for a series of years. I have attended three individuals in that house under typhus fever, and I was informed that no family had entered it for years some part of which had not been attacked by typhus fever in it. A common sewer runs close behind the house.

A young physician was attending my lectures, and desired me to see a servant, in the house where he was lodging, who was labouring under typhus fever. The drains in that house were bad, choked, and very near the surface. The servant got well, but, a few weeks after, the mistress was attacked by typhus fever, and I attended her; this second attack of typhus fever in the house so alarmed the young physician to whom I have alluded, that he removed from those lodgings. After a time, however, he returned to them again much exhausted by the distance to and from the lectures which he attended; and soon after his return he had an attack of typhus fever.

I have before mentioned that the Marquis of Hastings, observing that his army were suffering from the effects of marsh effluvia, moved it to a rising ground. The disease immediately declined, and thus were his men saved from destruction.

A friend of mine practised for a great many years in Demerara, and he came there to a conclusion precisely similar to that to which I have come in London, namely, that typhus fever is intermittent, that it is remittent, and that it is continued; and that it arises from marsh effluvia. With these impressions he was one day walking round the barracks, for he was the surgeon of a regiment, and he observed that the pales behind the barracks were black in a particular part. Typhus fever had broken out, and was then spreading very rapidly amongst the soldiers in the barracks; and it struck him that as the wind blew from

the direction of the pales to the barracks, (being in the same direction as that in which the pales were blackened) that might be the cause of the typhus fever. He therefore examined the situation, and found behind the barracks an old trench which had formerly been filled up with grass, now in a state of putrefaction. This trench he had immediately cleared out and thoroughly purified by passing water through it; and typhus fever disappeared entirely in the barracks from that time.

This, as a solitary circumstance, might be said not to prove much; but my friend tells me that he had seen many circumstances which led him to the same conclusion. Demerara is drained by trenches communicating with the sea, and when the air is stagnant, and the trenches are filthy, the disease is most abundant there.

Typhus fever has prevailed under various names. It was formerly called gaol fever, from its frequent prevalence in those places. Since the free ventilation and cleanliness of prisons have been strictly attended to it has disappeared there.

A fatal expedition some years since took place to Walcheren, and arrived there at a season when malaria was prevalent. Had the medical man who was at the head of the medical department been commonly informed on the subjects which his profession embraces, he would have prevented the fatality of that expedition, and that fine army would not have been destroyed.

I could mention many other similar facts; but these I consider so perfectly conclusive, that I believe no man, unless he be prejudiced, can doubt that typhus fever arises from malaria or marsh effluvia.

A gentleman lately told me that typhus fever had occurred in one of the Shetland isles, but that it had prevailed only on one side of the isle, the soil of which differed from that of the other side, and that the extent of the situation where the fever prevailed might be traced by a reference to the boundary of the two kinds of soil.

Thus it appears that typhus fever is connected with certain states of the earth; but this is not all, for it is connected with certain states of the air as well as of the earth.

In London it generally begins to occur in spring, especially if the weather in the middle of the day be at all warm. It is prevalent also throughout the summer, but prevails in the highest degree in the autumn, and ceases in the winter, during the time when the earth's surface is bound up by frost. It prevails when there is a great deal of putrefactive vegetable matter, and a still, warm atmosphere; all the beds of the Fever Hospital are then full. When there is a frost the disease is

checked ; but we find small-pox, measles, and hooping-cough, prevailing at all seasons of the year. It seems to prevail most at a temperature of between 50° and 80° . Some degree of moisture seems necessary for its production ; but it may and does also prevail in dry situations, as the atmosphere may be considered always to contain more or less moisture. It prevailed remarkably in London in 1818, when the earth's surface was baked by the sun, so that it was necessary to dig some depth before any moisture was found.

We must not, however, be deceived by the term marsh effluvia ; for I have no doubt that the peculiar poison which produces typhus fever may be generated in a house or in a ship.

Dr. Dwight, a celebrated traveller, and whose authority, as he is not a medical man, is very valuable, mentions some very curious facts connected with this subject. He observes, that, around the margin of all those lakes of America which are fed by springs beneath, typhus fever does not prevail, the surface of them being clear and transparent ; but that around all the artificial lakes, the surface of which is covered by a sort of dirty scum, typhus fever prevails remarkably. He thought this scum was the product of the putrefaction of the animalcula contained in the water ; and in order to ascertain whether that opinion was correct, he made some experiments which as far as they go approach nearer to the purpose than any which had been previously made. He put a quantity of pepper into water, and after a short time he observed in the water a world of animalcula ; then came a scum upon the water like that which he had noticed on the surface of the lakes, and on looking at the water he found that at this period it contained no animalcula. Hence he inferred that the scum was produced by the putrefaction of the animalcula.

These circumstances, taken in conjunction with some other analogous facts, seem to demonstrate that this substance, this poison, which generates typhus fever, is the product of the putrefaction of animal or vegetable substances, or perhaps both.

If this opinion be true with respect to the British metropolis, it will be true with respect to the whole world ; and, therefore, it becomes in a national point of view one of the most interesting questions for examination. It is important in reference to the site and construction of houses and to the locality and management of prisons, to the construction of docks and to the erection of hospitals and gaols. Typhus fever prevailed remarkably in the British navy when the practice of constantly washing between decks was adopted, and the ventilation was imperfect ; but since dry rubbing has been substituted, the navy has

been nearly exempt from it. It is still common in French ships, in which frequent washing is resorted to. Typhus fever often prevails in the vicinity of artificial docks : it has been much more prevalent in Bristol since the construction of the docks than formerly. The subject is important with respect to the building of palaces, the foundation of new cities, and the position of camps. In short, it is a subject so important to this country, and to the whole world, as to require and deserve the most attentive consideration of the medical philosopher. London formerly was more frequently afflicted by the existence of typhus fever than now. Animal and vegetable matter was strewn about the streets, and suffered there to undergo a process of putrefaction. The Jews seem to have had some idea of the effect produced by the putrefaction of animal matter ; for as their religion obliged them to make a great number of sacrifices at the altar, so they were accustomed to deposit all the refuse in the vale of Hinnom, at a distance from the city. Human excrements were formerly thrown into the streets. Since my time this was done in Edinburgh, and many old books show that it was the case formerly in London. In London formerly, too, the drains were very imperfect ; and all shops in the time of Elizabeth had large signs hung out, the streets being also very narrow, so that the ventilation was very imperfect. Erasmus says that the drawing-room of Elizabeth was strewn with common hay. In proportion as London has been improved in these particulars, by paving, cleansing, and rendering the drains more perfect, so has the frequency and extent of the prevalence of typhus fever diminished ; and it prevails now where these have not been attended to, and where the ground is low and marshy. But in the way of improvement so much remains yet to be done that a minister of health might be of great service. I am quite certain that if the legislature of this country adopted proper measures on the subject of the improvement of London, typhus fever might be nearly annihilated in it.

There are many other facts which throw light upon this subject.

In ancient Rome Celsus mentions that the typhus fever, or the fever arising from malaria, was most prevalent in the autumn, and that it put on the intermittent, the remittent, and the continued characters. Livy particularly mentions it ; Strabo attributes it to the effluvia from marshy soil ; Horace and Martial both allude to it ; and Virgil in the third book of his *Georgics*, describes a similar disease in horses which he attributes to malaria.

The attention which was paid to the subject, and the importance which was attached to it by the Roman empire is manifested by the

cloacæ and aqueducts, which are now amongst the most magnificent ruins of Rome. The cloacæ were founded by the kings, and afterwards strictly attended to by the emperors, especially by Augustus; for that subtle tyrant, though he sapped the foundation and undermined the constitution of his country, and left but the ruin of that fabric and the shadow of that glory which was once a mighty name, yet even he was not unmindful of the health of Rome's inhabitants. *Curatores* were appointed; not only the cloacæ maximæ were kept up, but cloacæ minores were established; and persons were employed constantly to traverse the streets for the purpose of keeping the drains clean. This was especially necessary from the manner of living in Rome; for it appears that the Romans lived almost entirely in the open air—tempted to do so, first by their climate, and next by their form of government which conciliated the people as long as any trace of liberty existed. The houses and apartments of the mass of the people were remarkably small, as may be ascertained from the contemplation of the ruins of Pompeii; but on the contrary, their public buildings were magnificent, spacious, open, and airy; which demonstrates that, as the people lived very much in the open air, so the government was remarkably attentive to their health.

If we contrast London with Rome we shall see that each has undergone a change: the vassal has been freed, and Rome the conqueror has been chained and enslaved for ages. Yes, Rome is indeed changed! the country of Celsus and Cicero—the mistress of the universe—the eternal city, now only exists as a ruined monument, and as a mockery of her former greatness. The Gaul and the Goth are the sentinels of her gates. Her palaces and temples are infected and tainted corruptibly with a double poison—with the malaria of the earth, and the far more baneful malaria of the mind which still shrouds her grandeur, smothers her freedom, and makes the barbarian of Austria the sovereign of her soil, the contamination of which can only be removed by the restoration of that independent spirit of liberty, which, being present, was her ancient glory, and the absence of which is her modern shame! And not only has the glory of Rome passed away with her once great names and splendid achievements, and the minds of her inhabitants become depressed, but the streets are filled up, the drains choked, cleanliness is neglected, and not only the city, but Italy itself is one continued marsh, as far as malaria is concerned. It is remarkable that that quarter of the city which is most crowded, where the Jews reside, is the most healthy, which would not be the case if typhus fever originated in, and were propagated by, human contagion. In Rome this disorder began to pre-

vail, and still begins to prevail, about May, and to decline after October. This is precisely the case in London.

Malaria now exists in Rome to a very great extent, and is supposed by many to be borne by the winds from Campania to Rome itself. In many places of Campania malaria is distinctly generated; and there are many facts which show that it is borne by the winds to a considerable distance.

In some situations where malaria prevails there is a peculiar smell; but in other places where it prevails there is no smell at all obvious to our senses. In the *Edinburgh Review* you may read of an individual in existence who seems to have a power of distinguishing malaria by the smell. He can nose it as he goes along the street, as Hamlet did the body of Polonius. But it unfortunately happens that this gentleman has found malaria to exist most in those districts of London where malaria least prevails. He cannot in fact determine with any certainty by the smell whether or not malaria exists in any situation. Perhaps it may be detected by some of the inferior animals, whose sense of smell is far more nice and acute than ours. A red deer, for example, is quietly grazing in the Highlands of Scotland; a fowler attempts to approach it while the wind blows from him to the animal; but long before he gets within gun-shot, it suddenly tosses up its head, snuffs the wind, starts, turns, and bounds away from its mortal enemy.

But since our external senses do not warn us of the presence of this subtle poison, it becomes us to use those higher faculties which have been entrusted to us by the Deity—our observation and reflection,—in order to guard ourselves against its effects. Cleanliness, ventilation, a perfect state of the drains, and a most minute attention to the condition of the earth's surface, are amongst the main means of preventing the existence and effects of malaria. Another point of great importance is the maintenance of the general strength (for typhus fever most frequently attacks weak individuals), by courage, by attention to the health, by those various physical and moral preservatives which enable us more effectually to resist the hostile influence of the poisoned elements.

I trust, then, that I have shown, that what we commonly call typhus fever originates from malaria—from an infection, and not from a contagion. The subject, however, still involves another question of great importance, which is this:—Does it, or does it not, become contagious? Does it acquire the additional property of communicability? It requires to be proved, in short, whether diseases arising from infection can become contagious. This is a subject which requires a minute investigation; and the inquiry should be conducted with the simplicity of a child

and with the intelligence of an adult. He who attempts it should throw off the prejudices of education, and determine to make just observations and draw from them legitimate inferences. It is the common opinion, or, rather, the common prejudice, that it does become contagious. Most persons believe in the contagious nature of typhus fever because they have been taught to believe so; and many would deem it criminal even to question that creed. Their ears are plugged up—they are, as it were, hermetically sealed by prejudice, and are as impervious to the admission of facts as the walls of this theatre. But the reasonableness and the truth of my opinion can only be established by facts, and therefore, to facts, and to facts alone, we must appeal in these affairs.

Now, though I would not take upon me, till I have seen and reflected more, to say positively that typhus fever is not contagious, yet I doubt the correctness of the doctrine exceedingly. Nay, I would say that if typhus fever be ever communicable, it is an exception to a general rule—an anomaly in the course and common character of this affection—an occasional aberration from a general law of nature.

I could mention a great many facts in proof that typhus fever is not communicable by contagion.

I saw a boy in a school at Walworth, who was, when I saw him, in a very small room, through which persons in the house were constantly passing; he had an affection of the glands of the groin, and carbuncles, and otherwise was the distinct subject of what some would call typhus fever, others plague. This boy was one of about eighty scholars, and till I saw him no particular pains had been taken to prevent communication or contact between him and his schoolfellows, neither had any care been taken about the ventilation of his apartment; but typhus fever was not communicated to any other boy in the school. Why did the others escape? This boy was perhaps the most weak and delicate in the school.

I attended a gentleman who was dying of typhus fever when I saw him. His wife read my looks more distinctly than my language, and affectionately pressed her husband again and again to her lips. But, though his teeth were crusted with dark sordes, though he had almost all the most malignant symptoms of typhus fever, and though his wife had been previously exhausted by night-watching as well as by mental anxiety, yet she had no attack of typhus fever.

I saw a child labouring under typhus fever, of which it was thought to be dying, although it afterwards recovered; but though the father of this child kissed it again and again without any precaution, yet he had no attack of typhus fever. I have known many instances of infants at

the breast labouring under typhus fever, in which the mothers have had no attack of that affection.

I have seen a great many instances of persons sleeping in the same bed with one labouring under typhus fever without being affected with the disease.

I have met with a great many instances of students who have attended their companions labouring under typhus fever, with a degree of attention and anxiety which could only have been equalled by that of their relations, and yet none of them have been attacked by typhus fever, though they have taken upon themselves the office of a nurse, and waited constantly upon their sick fellow-students.

Has this been, or can it be, explained, supposing the doctrine of contagion to be true?

But the reason why typhus fever is believed to be contagious is this:—unquestionably it sometimes happens that several persons are attacked with typhus fever in the same house, either two or three together, or after each other. This gives a colouring to such an opinion at first sight; but the fact is, that it is not surprising that several persons should be thus attacked, since they are all exposed to one occasion; and if you investigate many such cases you will find that, at the onset, some of them put on an intermittent, others a remittent, and others a continued, character, indicating that the affection arises from malaria or marsh effluvia.

Another reason for believing in the doctrine of contagion is, that individuals visiting those labouring under typhus fever occasionally are attacked with the same affection; but these individuals are exposed to the same occasion; and if malaria may effect one individual exposed to its influence, why may it not affect another, and another? And the truth is, that the doctrine of malaria explains these circumstances far more satisfactorily than the doctrine of contagion does.

A physician and his wife were once travelling from Rome to Florence; and as he had about him a considerable sum of money to convey to a friend at the latter place, they slept at a house on the road where malaria existed, lest he should be robbed. The consequence was, that both he and his wife were attacked with typhus fever, of which he died, and from which his wife recovered with difficulty. Malaria was known to exist at the house where they slept.

I saw a lady at a house in the Borough, and I felt it my duty to give an unfavourable opinion, for she was dying when I saw her, and lived but a few hours afterward. She died of typhus fever, and on

the following day her sister requested to see the dead body ; she was immediately sickened at the sight, and had an attack of typhus fever.

This might be called a proof of the doctrine of contagion ; but the first case was not one of contagion ; and, besides, all the individuals who had lived in the house had been attacked with typhus fever at different times. The probability is, that the malaria which existed in the house operated upon her when she was predisposed to it by the debility which the sickness produced.

A porter in the Fever Hospital was attacked by typhus fever. This on a superficial observation would appear naturally to arise from his connexion with the hospital, and accordingly this case was adduced as a proof of the contagious nature of the affection. But this man laboured under a quotidian ague for the first week, and in the second week he had an attack of continued typhus fever. This case, it was quite clear, originated from malaria.

A head nurse in the Fever Hospital was sickened on standing over a very offensive stool passed by a patient labouring under typhus fever, and she had an attack of typhus fever.

We know the great influence of certain smells ; and in this case the odour of the stool was probably only the predisposing occasion of typhus fever. The Fever Hospital stands in one of the affected districts of London. There is a slime almost constantly before the whole line of the hospital like the slime of the Nile after its overflowing ; and when the strength is broken up, it is reasonable to suppose that an individual, in that hospital tainted by malaria, should be attacked by typhus fever.

The laundry-maids in the Fever Hospital are remarkably liable to typhus fever, being exposed to bad smells and other circumstances which tend to break up the strength. In these cases the affection sometimes puts on the intermittent, sometimes the remittent, and sometimes the continued character, showing its origin from malaria.

My late colleague, Dr. Cleverly, was said to have died of typhus fever ; but from the account of two physicians who attended him, I should say such was not the case. But even if he had died of typhus fever, we must recollect that his mind had been considerably harassed, and that he had constantly visited the infected districts. In short, we might explain it just as well by malaria as by contagion ; and, since the cases supposed to prove the doctrine of contagion are so few in proportion to those which manifestly originate from malaria, it is reasonable to suppose that the latter is the occasion of all those cases.

This shows how some persons will take up as truths certain opinions without investigating the facts upon which those opinions are founded. By a parity of reasoning I could show that this theatre is far more likely to give you typhus fever than the Fever Hospital. I have attended about thirty pupils in the Borough labouring under typhus fever ; and what would you think if I were to assert that your daily gathering together here generates contagion. But the fact is, that the Borough is a district where malaria prevails very remarkably ; and the strength of the pupils being broken up by study and other circumstances, the malaria operates on them and produces a peculiar affection which puts on the character of intermittent, remittent, and continued fever.

Again, if you remove a patient labouring under scarlet fever, measles, hooping-cough, or small pox, into a fresh atmosphere, yet it will generally happen that the affection will be communicated to some individuals in that situation ; but I have never seen anything like this in typhus fever. I have seen no instance in which a patient labouring under typhus fever has been removed into a fresh atmosphere, and has in that situation propagated the affection to other individuals ; and until I do meet with some such fact I will not believe that it is contagious. Indeed, I shall in future be much more guarded against hastily taking up popular opinions without examination, merely upon the authority of others. Typhus fever obeys laws entirely different from those which influence other diseases which are admitted to be contagious : it arises suddenly in certain states of the atmosphere, and it disappears suddenly in certain other states of the atmosphere. And how is this to be accounted for ?

A friend of mine went to Alicant shortly after the yellow fever had prevailed there. The place had been surrounded by military lines, through which many broke in despair, while others were killed in the attempt : but, though some actually labouring under the fever thus escaped, yet this individual could not discover a single instance in which the affection had been carried by the infected person and communicated to another in a fresh atmosphere.

If the common doctrine with regard to typhus fever be true, that the assembling together of human beings in populous towns generates contagion, then would the whole earth seem to labour under the curse which Timon breathed against Athens :—

———“ Breath infect breath ;
That their society, as their friendship, may
Be merely poison !”

If this doctrine be true, whole cities—crowded and magnificent cities—would soon be depopulated ; London would be a solitary place, and at no very distant period its desolated remains would only be visited ever and anon by some curious traveller, who would in melancholy mood contemplate its splendid ruins as the mighty sepulchres of the dead, and weep over the destinies of a past and misguided race of men.

Typhus fever prevails in almost every part of London, which ought, according to this doctrine, to be depopulated. But what is the sober fact in London ? In opposition to sermons and reports it appears that typhus fever exists in some parts of London every year.

Analogy is against this doctrine. Observe what occurs in erysipelas. It arises, for example, in the wards of a hospital, very often attacking two or three individuals at one time ; very frequently attacking several individuals in succession who had no intercourse with each other. It is said to be contagious ; but I have traced it to an infection or local taint of atmosphere. If you put out the consideration of the external affection of the skin, it will be found upon reference to dissections to have, in many cases, all the other characters of typhus fever.

Again, fever sometimes arises from a puncture in dissecting. If you put out the consideration of the local effects of the puncture, you have a fever not distinct from a case of continued typhus fever. That this is the case observation has convinced me ; and from the experiments of Gasperd it appears, that putrid matter introduced by inoculation in the inferior animals produces a fever exactly resembling typhus fever : and though I think that genuine typhus fever arises from malaria or marsh effluvia, yet I am authorized by facts to infer that a continued form of fever resembling typhus fever may and does arise from the introduction of putrid matter into the blood.

The practical application of the doctrine is of great importance ; and it becomes a question of great interest—What good has the Fever Hospital done in a preventive form of view ? I have very great respect for the individuals who preside over that excellent institution ; but it is my duty to observe, that my own opinion is that it has done no good whatever in point of prevention : their views are entirely mistaken with regard to its preventive powers ; for the fact is, that typhus fever has prevailed year after year at certain seasons, in certain districts, limited as it were by a law of nature to certain spots, in defiance of their hospital, and will prevail in London as long as the doctrine of contagion holds its place in the minds of those individuals who

preside over it ; and the history of the Fever Hospital is the same year after year.

Again I beseech you to take nothing for truth but what your own observation proves to be so. So indolent is the human mind that it will rest even upon error rather than be at the trouble of inquiring for itself. I believe that the doctrine of contagion is taken up by medical men, as it was by myself, from the prejudices of education ; and it remains in my mind a problem to be solved whether typhus fever is ever contagious or not. Discard from your own minds the fears which haunt the minds of the public, but as long as there is a risk it is your duty to guard them against contagion ; for I repeat, that I am persuaded that if typhus fever be contagious it very rarely is so.

INFLUENCE OF THE DOCTRINE OF CONTAGION.

The doctrine of contagion ought to be true, because its effects on society are very injurious.

1. Its influence is prejudicial to the sick.

When typhus fever occurred in London under the name of the plague,—when individuals were shut up in their houses, and their doors were marked with a cross and inscribed with the words “The Lord have mercy upon us !” deserted by their friends and companions, they perished in crowds. And now that this affection prevails under another name, the doctrine of contagion destroys a great many individuals. I am sure that I have seen in the Fever Hospital at least twenty cases sacrificed in this way.

The doctrine of contagion is so selfish that it entirely excludes humanity and sensibility from the hearts of men. It is the most cold, the most cruel, the most calculating doctrine that ever was advanced.

A philanthropic acquaintance of mine lived in Philadelphia when the yellow fever prevailed there. Even though the fever was at its height he visited the places where it prevailed, and ministered to the wants of the sick. He found parents abandoned by their children and children by their parents, but again and again he went to their relief,—

“ Explored the thought, explained the asking eye,
And kept at least some parents from the sky.”

The terrific influence of the name upon the sick might have produced this unnatural abandonment of the nearest friends and relatives. If a parent were told that she laboured under a contagion, she would say to

her children, "Away ; flee from me ; abandon me to my fate !" And this is the doctrine of contagion !

2. It is prejudicial to the attendants and neighbours of the sick.

It is injurious to these individuals from the alarm which it creates, and which predisposes them to the influence of the common and peculiar occasions which give rise to different affections, as I have before explained. .

3. It is prejudicial in a national point of view.

Look to Alicant ; there the people were surrounded by military lines ; they were obliged to breathe the poison ; the tainted atmosphere of that place they were not allowed to leave.

Commerce is affected by the doctrine. The quarantine laws are very injurious to merchants ; and yet they are enacted to keep the plague from being imported into London. But the fact is, the plague has never been out of London since the time of Sydenham, when it prevailed to a very remarkable extent : and these laws, it must be confessed, even presuming the doctrine of contagion to be true, are perfectly absurd.

Such is the consequence of the doctrine of contagion : nay, more, it may effect the liberties of a country. Upon this ground we have what is blasphemously called a Holy Alliance,—an alliance against the liberties of mankind. This doctrine is favourable to despotism ; and it becomes us, therefore, to be cautious in receiving such opinions. It was a pretext for invading Spain—for infesting it with an army, which at first was a sanatory guard. A sanatory guard, forsooth ! Next it was an army of observation ; and next it became a horde of hired murderers, to crush the rising liberties of Spain and restore to unrestricted power an atrocious tyrant, whose presence is more baneful, more withering, and more detestable than the most deadly pestilence. This was the fruit of the doctrine of contagion ; and even in this last point of view it becomes an Englishman to pause. It becomes, I say, an Englishman, an inhabitant of that country which has been an intellectual sun to the modern world, and which will I trust continue to enlighten the human mind and animate the human heart, till not only that portion on which we stand, but the whole earth shall be sanctified by the triumph of liberty over oppression—it becomes him to pause and ponder e'er he admit the perilous doctrine of contagion.

From the injurious influence of the doctrine of contagion, it ought to be proved before it be admitted to be true ; but the doctrine is assumed without proof ; and the assumption does this harm,—it operates against inquiry. In this as in many other things men are content to

take up certain notions merely upon the authority of great names : these they maintain by confident assertion and appeals to books, but they never stick to facts at all. Still it is the truth, in many departments of science, that we make

“ Opinion an omnipotence—whose veil
Mantles the mind with darkness, until right
And wrong are accidents, and men grow pale,
Lest their own judgments should become too bright,
And their free thoughts be crimes, and earth have too much light.”

My anxious wish is that you should come to the inquiry without prejudice or partiality, determined to be guided by facts alone. This the purity of medical science, this the welfare of the public, demand. Though some old colleges, as bodies, are contaminated with so much prejudice and surrounded by so much darkness and ignorance that I cannot but look upon them with contempt mingled with compassion, yet their presumption in the delivery of their opinions is as great as ever, and against that presumptuous display of assertions I would especially guard you in all things, since you ought to be bound by no other authority than that of the truth. The meanest, the vilest reptile that crawls upon the face of the earth, is not so degraded in the scale of life as that human being who surrenders to another the freedom of his intellect: who exchanges for the prejudiced dogmas of the ancients those powers and opportunities of observation, reflection, and judgment, which he possesses for the benefit of society.

If all the mortal errors which have descended through past ages to this period of time could be collected into one object, and if I could form my wishes into an adequate power obedient to my will, it should strike them like a thunderbolt, aye, it should crush them at once. But since this cannot be, it still remains for me strongly to protest against them here ; and I appeal to you, who form a part of the rising generation, not to be deceived by these errors, but to endeavour to root out from the soil of the medical world all those antiquated doctrines which lead to erroneous opinions in pathology and practice, and to substitute for them facts as displayed by nature, that the science may be sanctioned by nothing but truth itself.

LECTURE XXXVIII.

PECULIAR FEVER.

SYMPTOMS, DIAGNOSIS, MORBID ANATOMY, PATHOLOGY, AND TREATMENT, OF INTERMITTENT, REMITTENT, AND CONTINUED TYPHUS FEVER.—PROBABLE IDENTITY OF TYPHUS FEVER, YELLOW FEVER, AND PLAGUE.

IN my last lecture I endeavoured to show that what is commonly called

TYPHUS FEVER

proceeds from malaria or marsh effluvia, as its primary source ; and I also endeavoured from remarkable facts to show that the commonly received doctrine of contagion with respect to that affection is extremely questionable ; that all facts are directly opposed to that doctrine ; and that the few apparent exceptions which occur are explicable as satisfactorily, nay, even more so, by the doctrine of malaria.

There is scarcely any place on the earth's surface where malaria is not passing off.

Its nature is not known ; but the following three circumstances seem to be connected with its generation :—moisture, heat, and the putrefaction of vegetable and perhaps of animal matter. When these three conditions are combined, especially in a marshy soil, malaria abounds. The increased prevalence of typhus fever in Rome is attributed to the felling of forests ; for it often prevails in Rome when the wind is up the coast, and it appears that trees intercept malaria. Fergusson mentions a pestiferous marsh covered with trees, the inhabitants to the leeward of which are quite safe. Pestiferous air sometimes rests upon trees or the sides of mountains, borne there from places where it has been elaborated. And when malaria comes in a current its influence is very decided.

The time in which, after its introduction into the system, it operates is various. In some cases it operates in a single day ; in other cases within a week, or in a fortnight or three weeks. The most common

time is from the first to the third week after its application; but sometimes it is a much longer period. On the abdication of Bonaparte, in 1814, persons who travelled over a marshy district in France had typhus fever on their arrival here, at the distance of two months afterward. Some writers confidently assert that it operates at still later periods.

I shall now proceed to point out the various effects of malaria. It produces three forms of fever, namely, an intermittent fever, a remittent fever, and a continued fever; or, as I would rather call them, an intermittent typhus fever, a remittent typhus fever, and a continued typhus fever;—at least this is its regular operation. When it acts on a weak individual, or in a very concentrated state, it sometimes sinks the powers of life at once, producing congestion, cholera morbus, and dysentery.

SYMPTOMS OF INTERMITTENT TYPHUS FEVER.

The intermittent form of typhus fever, or, as it is commonly called, ague, or intermittent typhus fever, has three varieties when it occurs under a regular character. Of these the first has been called a quotidian, the second a tertian, and the third a quartan.

Each of these varieties of intermittent typhus fever consists of a succession of three stages: first, a cold stage; next, a hot stage; and, thirdly, a sweating stage.

1. The cold stage is various in its duration. It generally comes on with the following symptoms; the skin is cold and pale and contracted like what is called the goose-skin or *cutis anserina*, the teeth chatter, the patient complains of aching or pain in the head, back, and limbs, and of an uneasy sensation or load about the epigastrium, and of languor and lassitude. He creeps together, and has a constant desire to be near the fire; the pulse is small, feeble, and quick, and often irregular, and the breathing often oppressed. Sometimes there is nausea, retching, or vomiting. The cold stage continues sometimes a quarter of an hour, sometimes half an hour, sometimes three quarters of an hour, seldom longer than an hour; but now and then considerably longer than that period. At length it goes, either very gradually or suddenly, into—

2. The hot stage, in which the skin becomes hot and dry; the pulse becomes quick, expanded, and strong; the face becomes flushed; the eyes become bright; the tongue furred; and the patient usually complains of more or less pain about the head, with some degree of thirst. This stage also varies in its duration; continuing sometimes one hour,

sometimes two, sometimes three hours, and sometimes even longer. It then gives place to—

3. The sweating stage, in which the heat on the surface falls; the skin becomes universally moist; the pulse becomes slower; the aching uneasiness of the head disappears; there is a languid expression of the face; and the patient returns after an indefinite period, one, two, three, or four hours, to a state called *apyrexia*, in which he ceases to have any degree of fever, but remains more pallid than natural, with a tongue somewhat furred, and a pulse somewhat more feeble than natural.

When a patient has had several revolutions of these three stages the face usually assumes a peculiar straw-coloured tint.

The peculiarity of this variety of fever is, that there is a succession of fits occurring at regular intervals.

What is called the interval, differs in the different varieties of intermittent typhus fever.

1. When the interval is twenty-four hours, the case is called a *quotidian ague*; 2. When the interval is forty-eight hours, the case is called a *tertian ague*; and, 3. When the interval is seventy-two hours, the case is called a *quartan ague*. These are three varieties of intermittent fever when it occurs under a regular form.

By the interval, I mean that period of time which is occupied between the beginning of one cold stage, and the beginning of the next succeeding cold stage. By the intermission, I mean that period of time which occurs from the termination of the sweating stage, to the commencement of the next cold stage, during which time the fever is absent. You will be careful, then, not to confound the interval with the intermission.

A very common form of ague in this country is what has been called a *double tertian*.

Suppose a patient have a cold fit occurring to-day at noon; if the ague be a *double tertian*, another cold fit will occur to-morrow, not at noon, but either before or after noon. The next day the cold fit will occur at noon, and so on. This form of ague may either be called an *irregular quotidian*, or a *double tertian*. In Shakspeare's time it was called a *tertian quotidian*.

Beside these there are also some other forms of ague. In some the interval or period at which the cold stage returns varies. In a *quotidian*, it often occurs in a morning; in a *tertian*, in the middle of the day; and in a *quartan*, in the afternoon. But you must recollect that there is no certain rule as to this subject. It does sometimes happen that an ague is *irregular* as to the period of its accession. This is very

important to be remembered ; because it frequently happens that intermittent terminates in remittent or continued fever ; and you might by not knowing this be led into very serious errors.

In some instances the sweating stage is absent.

I attended a lady who was labouring under a continued form of typhus fever. She became convalescent, and in that state her stomach was disturbed. She had in consequence a shivering fit, which was succeeded by a hot fit, but no sweating stage occurred. When I first saw her several revolutions of this kind had occurred, and her countenance had the peculiar strawy tint which I have described.

I have seen several other similar cases.

Sometimes malaria produces intense pains, returning either periodically as to the time of their return, or periodically as to the time of their duration.

DIAGNOSIS OF INTERMITTENT TYPHUS FEVER.

There are very few affections which could easily be confounded with ague.

I. FROM IRRITATION OF THE URINARY SYSTEM.

You might, perhaps, confound any irritation about the urinary organs with intermittent typhus fever. If an individual have a diseased prostate gland, and by taking a long walk or by rough exercise produce inflammation, that inflammation is very apt to be accompanied by a cold and pale skin, and by shaking ; the cold stage will be followed by a hot stage, and that by a sweating stage, the same as in ague. The same will occur in cases of disease of the kidney, or bladder, or stricture. This apparently intermittent fever is distinguished from genuine intermittent typhus fever by the following circumstances :—

1. Because under urinary irritation the return of the cold stage, if it return at all, is extremely irregular ; and it only recurs in conjunction with an attack of urinary irritation. The sweating stage is of longer duration than in ague.

2. Because it is accompanied by evidences of the presence of such irritation about the urinary organs.

II. FROM HECTIC FEVER.

A careless observer might mistake hectic fever depending upon in-

ternal suppuration for intermittent typhus fever, or the latter for the former. I am attending a lady who labours under phthisis pulmonalis, and who has an attack of cold shivering every noon; the cold is followed by a hot stage, and that by a sweating stage. This revolution is again repeated at about twelve o'clock at night.

I have seen the cold fit occur regularly at a certain hour in internal suppuration. This form of intermittent fever is known from genuine intermittent typhus fever by the concomitant indications of internal suppuration. This suppuration is most frequently occurring in the lungs, sometimes in the liver, and sometimes in the lungs and the liver at the same time.

The patient in ague has a peculiar strawy tint of the face.

With respect to the

PATHOLOGY OF INTERMITTENT TYPHUS FEVER,

or ague, it is a miniature of common simple fever; it has all the circumstances of common simple fever compressed into a small space. What takes place in common simple fever in a few days takes place in intermittent typhus fever or ague in a few hours. Both common simple fever and intermittent typhus fever have three stages: first, a cold stage, or stage of depression, in which there is a state of venous congestion; secondly, a hot stage, or stage of general simple excitement; and, thirdly, a sweating stage, or stage of collapse. These three stages, which in common simple fever occur in a few days, succeed each other in intermittent typhus fever in a few hours.

THE TREATMENT OF INTERMITTENT TYPHUS FEVER

is remarkably simple.

1. During the cold stage the object is to equalize the circulation of the blood; and nothing does that so effectually as the application of the hot air bath: it restores the animal heat on the skin, and by that means creates a copious flow of blood to the surface, and so lessens the congestion of the internal organs. When this cannot be procured or conveniently applied, a hot water bath of the temperature 100° may be substituted. If neither the hot air bath nor the hot water bath be at hand, you may lay the patient in warm blankets, apply a bladder of warm water to the region of the stomach; apply a bottle, or, what is better, a tin of hot water to the feet, administer tepid drinks, and give

a full opiate, say from thirty-five to fifty drops of the tincture of opium. Opium tends remarkably to shorten the cold stage.

2. When the hot stage is established, a different plan of treatment is required. The object now is to diminish the heart's action and the animal heat. You must therefore lay the patient cool, give him cool drinks, sponge the surface with tepid water, and open the bowels by mild aperients, for which purpose salts, senna, and manna, in combination, answer very well.

3. When the sweating stage occurs, supply the patient moderately with luke-warm, bland, drinks; and after this stage the personal and bed linen should be changed, lest the patient should be chilled by their dampness.

4. The cure, however, of intermittent typhus fever or ague must be accomplished in the period of the intermission: that is, in the period of time which elapses between the termination of the sweating stage and the accession of the next cold stage.

If you chance to see a patient just before the accession of the cold stage, fifteen grains to a scruple of powdered ipecacuanha, followed up after its operation by from thirty-five to fifty drops of the tincture of opium (to an adult), will often prevent the accession of the cold stage, and solve the disease at once. If you see the patient after the commencement of the cold stage, it is better to omit the emetic and give opium alone. But if you see the case when the sweating stage is fully established, you may then attempt the cure in the intermission.

Generally speaking, an ounce of good yellow cinchona bark, will prevent the return of the affection. If it fail to do so, you will almost invariably find that the bark has been either adulterated, or is of bad quality.

But you need not give the patient so large a quantity of physic as this; for the quinine answers the purpose equally well, especially the sulphate of quinine. I have given it in forty cases, and it has succeeded in stopping the affection in all these cases, with only one exception. Five grains of the sulphate of quinine should be given thrice during the intermission, and continued for a few days, with a grain and a half or two grains of calomel every night.

In this way it will almost invariably cure ague. I have met with but a single exception to the success of this remedy, and in that case there was not only ague, but combined with it an organic affection of the liver.

Arsenic was formerly a great deal used for the cure of ague. We have now, however, little or no occasion for it, though it generally suc-

ceeds, and may be safely tried if it be given cautiously. If good bark or sulphate of quinine cannot be obtained, you may begin by giving three drops of liquor arsenicalis three times a day in a little distilled water, after a light meal of arrow-root or gruel. If arsenic be given on an empty stomach, it is very apt to create irritation of the mucous membrane of the alimentary canal. I have seen a patient die from taking only three drops of Fowler's solution in this way. The dose may generally be increased to ten drops three times a day. Watch with assiduity its effects on the stomach; keep the patient at rest; adopt a spare diet; and give a calomel purge every night.

Secret remedies often succeed in curing ague among the lower classes of society.

A clerk to the Mendicity Society was famed for the cure of ague by some secret remedy. He was a patient of mine, but, though I requested him to tell me his secret, he refused to impart it.

It is sometimes by merely inspiring confidence that secret remedies succeed in curing ague.

In the life of Lord Chief Justice Holt a curious anecdote is recorded. It appears that when a young man Holt had a flow of animal spirits which could not well be restrained, and he happened on one occasion, with some companions, to stop at an inn in the country, where they contracted a debt of such amount that they were unable to defray it. In this dilemma they appealed to Holt to get them out of the scrape. Holt observed that the innkeeper's daughter looked remarkably ill, and was told by her father she had an ague. Hereupon he gathered several plants and mixed them together with a great deal of ceremony, afterwards wrapping them in a piece of parchment, upon which he had scrawled certain letters and marks. The ball thus prepared he hung about the young woman's neck, and the ague did not return. After this, the never-failing doctor offered to discharge the bill, but the gratitude of the landlord refused any such thing, and Holt and his companions departed. When he became Lord Chief Justice a woman was brought before him accused of being a witch. She was the last person ever tried in England for witchcraft. She made no other defence than that she was in possession of a certain ball which infallibly cured ague. The ball was handed up to the judge, who untied it, and found it to be the indential ball which he had made in his youthful days for the purpose of curing the woman's ague and paying his own bill.

Baron Dimsdale mentions an old shoemaker who was famed for curing ague. The baron asked him how he succeeded, or what remedy he used. "Oh!" said the shoemaker, "I may tell you; I cure people by

pretending that I can cure them. People say that I can cure the ague; and when they come to me I say that I can cure them, and then I go into my garden and bid them wait till I return; I cut a twig off some tree, cut nine notches in it, and then I bury it in the garden, and tell the patient I bury the ague with it. I obtain confidence on account of the charm which people think I possess; and by performing these and other ceremonies it generally succeeds so well, that the individual has no return of his ague."

Mild calomel purges are extremely beneficial in intermittent typhus fever. I have cured a great many cases of ague by prescribing a bland diet, rest, and calomel purges. You may give at night about one grain of calomel with three grains of rhubarb; this followed up in the morning by a drachm of cold-drawn castor oil, will almost invariably succeed, especially if you give the patient sulphate of quinine.

If these methods fail, sometimes a change of air, or a sea voyage, becomes necessary to break through an attack of ague.

When a patient lives in an infected district it is sometimes very difficult to cure a protracted case of ague.

A remarkable fact connected with intermittent typhus fever or ague is, that after it has been stopped by bark or other means, it may be renewed by a common occasion.

I knew a physician who travelled through Russia and Persia, and had an attack of ague, which was cured by bark. On his return to England he was one day walking along the Strand, and being exhausted by the heat of the weather, he stepped into a confectioner's shop and ate an ice; it chilled him, and the consequence was a return of the ague, of which he had several successive revolutions.

A lady had ague in Spain, and she has had a return of it about the same day the last three years.

I have seen other examples of a similar kind.

When ague has returned from the application of a common occasion, it would seem that some latent poison has existed, in all probability in the blood, so that upon the application of a common exciting agent, a peculiar and specific affection is developed.

PATHOLOGY OF REMITTENT TYPHUS FEVER.

The remittent form of typhus fever, usually called remittent fever, sometimes arises out of the intermittent form of typhus. It is by no means uncommon, especially in London, for an intermittent fever to become remittent, and for a remittent fever to become continued. This

fact seems to have been known to Shakspeare, who was a very accurate observer of nature. His mind glanced over the whole universe, and there is scarcely any path of human knowledge which the light of his intellect did not lead him to explore. Mrs. Quickly calls Falstaff's ague a quotidian tertian, and it is described as passing into the remittent form, under which he is represented as dying, "playing with flowers, smiling on his fingers' ends, and babbling o' green fields."

The intermittent, remittent, and continued forms of fever often occur in the same house at the same time; and you will find one individual labouring under intermittent fever, a second under remittent fever, and a third under typhus fever in the continued form.

The brother of a pupil of mine had intermittent fever, while his mother in the same house had continued fever. After a time her fever became intermittent also.

In a house near this place a pupil of mine had an attack of continued typhus fever, and his sister had at the same time an attack of remittent fever.

There is a very important question to investigate, namely, why an intermittent fever becomes remittent?

The intermittent form of fever has the simple character. In the hot stage the blood certainly circulates more rapidly than natural through all parts of the body: but the circulation is so equally balanced, that no one internal or external part can be said to be the seat of acute inflammation. There is never either acute or sub-acute inflammation of any structure in the intermittent form of typhus fever. Yet a chronic form of inflammation may steal on insidiously, though I repeat that I have never seen an instance of acute or sub-acute inflammation connected with intermittent fever.

When acute or sub-acute inflammation supervenes, the fever changes its type.

If the inflammation be slight in extent or in degree, the fever puts on the remittent form. And this is the source of the modification of the type of the fever: the reason why the intermittent fever puts on the remittent character. Besides, in remittent fever there is a slight degree of irritation about the pia mater and arachnoid membrane; about the bronchial lining; and about the intestinal lining; and these different irritations, some of which assume the inflammatory character, constitute the reason why the fever puts on the remittent character.

If the inflammation be more extended throughout one or several structures, or if it be high in degree, the fever puts on a continued character.

THE SYMPTOMS OF REMITTENT TYPHUS FEVER

are remarkably simple.

The patient has an accession of fever, which is distinguished from ague by the absence of the cold stage, in the afternoon or evening. It increases throughout the night, and in London most frequently ceases about four o'clock in the morning, or from four to eight. During the accession of the fever the skin becomes hot, the face becomes flushed, the eye becomes bright, the pulse becomes quick and strong, the breathing becomes quick, the strength becomes prostrate, the tongue becomes dry in the middle and almost always moist at the edges; and these symptoms are combined with some uneasy feelings about the head, and the patient usually becomes somewhat light-headed.

These symptoms continue till the remission, or a brief intermission, occur: till, in fact, there is a cessation of fever, either nearly or entirely, for four hours, sometimes more, sometimes less. When the remission is perfect, the fever is completely absent. When it is imperfect, only a slight degree of fever remains.

The skin becomes universally cool, the pulse becomes softer and much slower, and the tongue becomes moist and covered with a dirty whitish fur. In other cases the skin is universally warm, but moist.

Sometimes the accession of fever in the remittent form of typhus fever is irregular as to time. Sometimes it occurs in the morning, sometimes in the night, but generally it occurs in the afternoon or evening; continues through the night, and is succeeded by a distinct remission towards the morning.

THE TREATMENT OF REMITTENT TYPHUS FEVER

also is remarkably simple.

During the hot stage the patient requires to have the surface sponged with tepid water. He requires also the exhibition of mild aperients, say a grain and a half of calomel, with four grains of rhubarb, followed up by two drachms of castor oil. Generally three grains of calomel ought to be given in a day. In fact, calomel purges are almost a specific for remittent fever. If the patient complain much of uneasiness about the head, you may apply a few leeches to the temples. If the tongue be red at the tip and edges, with obscure pain over the epigastrium, you may apply a few leeches over that part with advantage. If you thus remove the inflammation, calomel will do all the rest. The

diet should be remarkably bland, and the patient should be kept cool in the night.

If the remission be perfectly distinct; if the skin be universally cool; if the pulse be soft and compressible; and if the tongue be universally moist for three or four hours; then bark stops the remittent form of typhus fever at once. An ounce and half of bark, with two drachms of magnesia, may be infused in six or eight ounces of water, and given during the distinct remission. Never in remittent fever give bark in the form of powder, for it often produces inflammation of the stomach and intestines. Or two or three grains of the sulphate of quinine may be given every hour during the remission. This, together with calomel purges and cold-drawn castor oil, rest, tepid ablutions, and occasional leeching if there be pain in the head or epigastrium, will remove the affection. Arsenic is a very beneficial remedy in this affection in the form of small doses of Fowler's solution. I prefer sulphate of quinine, though I have not used it so much in remittent as I have in intermittent fever, to the infusion or decoction of bark; and of these I prefer the infusion to the decoction. Though slight inflammation exist, quinine may be given if the remission be perfectly distinct.

When the remission is not distinct, and any degree of fever remains, it is better to omit the bark and give mild calomel purges, cautiously avoiding harsh cathartics. Sometimes in remittent fever the excitement becomes very high towards the evening; the patient becomes excessively hot; the eyes become injected with red blood; the conjunctiva becomes ferretty; the patient becomes delirious and wanders in his mind, and passes a restless night. Then, generally, about four or six o'clock in the morning, the fever declines; the face becomes sunk and haggard; the conjunctiva becomes blanched; the skin becomes cold as clay; the lips become blue; the cheeks dusky; the respiration weak and panting; the pulse becomes a mere flutter; and the patient lies on his back exhausted and sunk in the bed. In this state of collapse wine is necessary. I am quite sure that I have saved many patients in this state by the administration of a little wine, though, generally speaking, the collapse is fatal.

I recollect a young lady, the sister of a pupil of mine, who had the remittent form of typhus fever. After a stage of very high excitement there succeeded a stage of profound collapse, which was removed by a little wine.

I attended a man near the Fever Hospital in whom a little wine in the stage of collapse was very beneficial. And I saw a similar case in a man who was a patient in the Fever Hospital.

I am very cautious in the administration of wine; and in typhus fever I do not recommend it except under the state which I have just mentioned. The quantity of wine must depend upon the degree and duration of the collapse. It should be given in small doses, frequently repeated; and its effects upon the head, heart, and skin, must be carefully watched. As soon as a state of excitement is established it must be discontinued.

During the collapse the patient should be laid between warm blankets, bottles of hot water should be applied to the feet, and a bladder of hot water to the pit of the stomach, and plenty of fresh air should be admitted.

SYMPTOMS OF CONTINUED TYPHUS FEVER.

The continued form of typhus fever may arise out of either the remittent or the intermittent forms of typhus fever. When it does so arise the history of the case will convince you of the fact.

But more frequently the continued form begins at once as an original form of typhus fever; and there is then an aggravated degree or a greater extent of inflammation than in the remittent fever. The poison operates as a depressant; and under the excitement which follows the depression some organ becomes inflamed; and the continued heat of the surface, and the continued frequency of the pulse, indicate the type of the fever, which is hence called continued fever. It has no intermissions or abatements. The combination of symptoms which attends continued fever attends remittent fever in a slighter degree.

Under the continued variety, typhus fever begins in three ways, or has three modes of attack. In other words, it has three forms;—

1. One attended by a very high degree of excitement;
2. Another attended by an intermediate degree of excitement; and—
3. Another attended by a low degree of excitement.

With respect to—

THE FIRST FORM OF CONTINUED TYPHUS FEVER,

namely, that which occurs with a high degree of excitement, it is either ushered in by a cold shivering fit, or by languor and lassitude, under which the patient crawls about for some days.

I particularly wish to point out to you the importance of this languor and lassitude which precedes the attack of typhus fever; because if the patient walk about in that state the subsequent fever will be intensely aggravated.

After this stage of depression has passed away, it is succeeded by a stage of high excitement, with the form of fever which Cullen sets down in his book as synocha. It is a form of most intense excitement, under which the skin is very hot and dry; the pulse is quick, round, resisting, and expanded; the brain is very greatly affected; there is violent pain in the head; a flushed face; and the prostration of the muscular strength is excessively great. There are proofs of irritation (slight in this case) on the mucous membrane of the bronchia: the tongue is white, or covered with a dirty white yellowish fur, and moist all over for the first few days. This form of fever commonly occurs in robust young men, and generally sets in with an acute inflammation of the brain.

This stage of high excitement varies in its duration. Sometimes it lasts two or four days, sometimes five or six days; and if the patient does not die in that stage, then the fever assumes another character. The heat falls on the surface; the pulse becomes soft and compressible; the lip and cheek dusky, or of a purple or leaden hue; the tongue becomes glazed and brown; the voice becomes feeble and very peculiar; the breathing is laborious even to panting; the eye indicates languor; the patient has little or no muscular power; the position of the body is sunk; the brain becomes muddled; the patient mutters and moans at night; he becomes indifferent, and sinks gradually into a state of perfect insensibility; the surface becomes covered with petechiæ; and death closes the scene. The high degree of excitement has passed away, and is succeeded by a low degree of excitement, the origin of which is the development of the special bronchial affection which characterises this stage. The bronchial lining is excessively loaded with blood, and secretes a sticky varnish, which, preventing the blood from undergoing the natural process of oxydization or decarbonization in its passage through the lungs, thus brings about a most remarkable change in the symptoms of the affection.

The powers of life are sunk while you have inflammation of some internal part. Yet if you abstract blood no buff will be found on it. You will never see malignant typhus fever without a special bronchial affection, which is very different from the common bronchitis. The sticky varnish commences on the tongue and spreads downwards to the bronchia, and generally there is no large accumulation in the bronchia.

THE SECOND FORM OF CONTINUED TYPHUS FEVER

has an intermediate character. The fever is less ardently developed, and the inflammation is less in degree. The same characters exist, but

the only difference is, that they are more moderate in the onset. Like the first form, the fever goes on for a period of seven or eight days generally, and then the pulse falls and becomes soft; the tongue becomes dry, glazed and brown; the voice becomes feeble; the breathing becomes weak and panting; and the position becomes weak and prostrate. In fact, in this form, as in the first form, the same symptoms exist, and the same pathological condition brings them about.

Now, what takes place in the first and second of these forms in a few days, takes place on the first or second day or at once in—

THE THIRD FORM OF CONTINUED TYPHUS FEVER:

the form, namely, in which there is a low degree of excitement. Sometimes it arises insidiously. At the onset the patient has a low degree of heat upon the surface; a rapid, feeble, soft, and compressible pulse; a glazed and brown tongue; a feeble voice; an exhausted state of the respiration; and a prostrate position of the body. In short, there is a state of overwhelming oppression.

This, I presume, as well as the other two forms in the last stage, constitutes what the older authors called typhus gravior. I say I presume this to be the case, for I do not pretend to understand what they meant by the term typhus gravior; and I despise these terms, because they themselves attached no precise meaning to them. In fact, it was with the older authors entirely guess-work; and it is just the same with the modern inhabitants of schools and colleges. We have abundance of words like typhus gravior, and typhus mitior. Indeed, we have nothing but words under the miserable system of Cullen.

When Polonius meets Hamlet in the play, he inquires what he is reading. Hamlet replies, "Words, words, words." And it is the same in the writings of Cullen; for there we have words, words, and nothing but words. After making some remarks on old age, Hamlet says—"All of which, sir, though I most powerfully and potently believe, yet I hold it not honesty to have it thus set down."

Now, as I do not believe any part of it at all, but have an utter contempt for the writings of Cullen, and though I respect the man, yet believing that he has done by his writings more injury to the medical science than any other public character, I can, with a better grace than Hamlet, say—"I hold it not honesty to have it thus set down." And I would say as he does to the players—"Reform it altogether."

Throw away your idle writings, and come to facts, and by an appeal to facts we will decide the affair.

MORBID ANATOMY OF CONTINUED TYPHUS FEVER.

The barber, in the "Arabian Nights' Entertainments," on going to examine the body of Hunchback, very sagely and philosophically remarks, that "no man dies without a cause." But he was mistaken; for if he had lived in modern times, and attended lectures in schools and colleges in this country, he would have found that some, nay many persons, die without a cause. They die nosologically. They die in crowds from the influence of mysterious sounds breathed by the mighty magic of the specious absurdities of the schools.

From the nosology of Cullen we should be led to suppose that these hosts of individuals had died from the workings of some subtle or invisible agent, leaving no trace behind to show the seat or nature of its influence. But you may be assured that no affection leaves traces so deep, so evident, and so constant, on different parts of the body as typhus fever. For the cause of death in typhus fever I would have you appeal from books to the appearances on dissection of fatal cases.

I mentioned to you that there are two kinds of pathology. The one is the symptomatical pathology,—the only pathology of the ancient writers, who arranged affections under abstract names without any knowledge of a reference to their anatomical pathology.

With respect to typhus fever, I shall come first to the consideration of the different structures, the morbid changes of which are, by a careful and extensive dissection, developed, and shall then assume those changes in order to explain the symptomatical or external pathology.

If you cautiously examine bodies after fatal cases of continued typhus fever, you will find the following appearances:—

You will find, on cutting the brain, that it exhibits more bloody points than natural; that the pia mater is gorged with red blood; that the arachnoid membrane is milky or opaque in some places, and thickened; that there is some effusion of fluid, generally serum with loose coagulable lymph, between the membranes; and that the membranes of the spinal cord are in a similar condition,—at least, as far as my examinations have gone, it has been the case. Of the state of the brain and its membranes I can speak confidently, having invariably found them affected in more than one hundred cases, without a single exception.

The bronchial lining is invariably found highly congested with dark blood, and a sticky secretion which besmears the membrane exercises a most important influence over the pathology of the affection, by

changing the constitution of the blood in a way which I have already explained. If the sticky varnish be washed off with a sponge, the membrane exposed to the air soon becomes vividly red.

The liver generally contains more blood than natural, and a venous or arterial tree is found in the mesentery, when no calomel purges have been given. If calomel purges have been given, then the appearance of the liver is pretty natural.

Some traces of inflammation are found invariably in the mucous membrane of the small intestines, and especially of the lower portion of the ilium. This portion of the ilium is invariably found inflamed, either with or without ulceration. When the affection has gone on for a fortnight or three weeks, you will almost invariably have inflammation and ulceration there, and the mesenteric glands will be more or less enlarged. When diarrhœa has existed the upper part of the colon also will be found inflamed.

Occasionally the mucous membrane of the stomach is red, thickened, and pulpy.

Sometimes it happens that the internal tunics of the arteries and veins are inflamed. This seems to be an accidental concomitant, and not a necessary or essential part, of the affection.

Sometimes, though rarely, the serous membranes are inflamed; but this too seems rather an accidental than an essential part of the pathology, if we except the arachnoid membrane of the brain, which I suppose we must consider as a serous membrane.

The skin undergoes great changes: generally it is universally dry, and furfuracious, and more contracted than natural. When the internal mucous membranes are much affected, the functions of the skin are generally considerably disturbed also.

Whatever be the age, whatever be the sex, and whatever be the constitutional peculiarities of the individual, there is this remarkable circumstance—that this malaria, when it brings about continued typhus fever, produces in all persons uniformly the same affection of certain parts—the same affection of the brain and its membranes; the same affection of the bronchial lining; the same affection of the mucous membrane of the small intestines; and the same affection sometimes of the mucous membrane of the stomach.

How can this, then, be explained with regard to the symptomatical pathology?

If a small portion of putrid animal matter be accidentally introduced into the blood in a dissecting room, or if the experiment be made upon the lower animals, it produces a fever having exactly the characters of

typhus fever under its continued form. And though, as far as my own observations have gone, malaria or marsh effluvia alone produces typhus fever under an intermittent, remittent, or continued form, yet I believe that putrid matter introduced into the blood produces an affection so exactly resembling typhus fever, that, putting out the local affection of the wounded part, I believe no individual could confidently pronounce that it differed from typhus fever. And in these two affections, as far as I have observed, the morbid appearances are similar. How, then, do you distinguish typhus fever? By its having an intermittent, remittent, and continued character, which pass and repass each other. So, likewise, it is distinguished by the supervention of the special bronchitis, attended then by the combination of the symptoms of an affection of the brain, the bronchial lining, and the ilium. The symptoms of inflammation or irritation in these parts are attended in the perfectly developed form of the fever by that special bronchial affection to which I have alluded. In one person the brain, in another the liver, in others the stomach, or large or small intestines, may be the parts most affected; but still there is the same combination of symptoms, differing only in their relative degree; and this combination constitutes the peculiarity of the affection.

PATHOLOGY OF CONTINUED TYPHUS FEVER.

Having spoken of the morbid anatomy, the symptoms explain themselves.

In the stage of excitement you have all the evidence of inflammation of the brain or its membranes strongly marked: you have the dropping eyelid; the very glairy eye; the dull intellectual expression, mixed up with the expression of physical brightness; the injected conjunctiva; the uneasiness within the head; the hot scalp; the disturbed sleep. Very frequently, if the excitement be high, a disturbed state of the mind will occur at the early stage of the fever; and when the stage of excitement has passed on for some time, you have the low muttering delirium: then you have indifference, and then insensibility. You should bear in mind that inflammation of the brain has two stages,—one of increased, and another of diminished, sensibility; as I have explained in a former lecture.

With respect to the affection of the spinal cord and its membranes, you have uneasiness of the skin, soreness of the flesh, pain in the neck, back, or loins, with tingling or numbness of the upper or lower extre-

mities, and the patient, upon inquiry as to the seat of his pain, will generally tell you, "I am bad every bit of me."

With regard to the bronchial lining, the duskiness of the face will be very marked, and the more so if you stand at a little distance from the patient's bed, especially if you compare it with the face of an individual in the next bed who labours under some other affection. As the bronchial affection increases, the face becomes more and more dusky, and you have the peculiar shades of colour in the lip and cheek which I particularly described when speaking of bronchitis. It is indicated also by a panting respiration, by prostration of strength, by dulness of intellect, by softness of the pulse, by a change in the voice, and by a husky stuffing noise on coughing. But this special bronchitis differs from the bronchitis which arises from a common remote occasion in one point—it differs, I mean, because the kind of secretion is peculiar: the secretion is so sticky and tenacious as more effectually than the loose secretion of common bronchitis to keep the air from coming into contact with the blood. In the special bronchitis the impediment to respiration is not, as in common bronchitis, in proportion to the quantity, but has reference to the quality of the secretion. It continues increasing till at last the body undergoes a partial decomposition. And when this bronchial affection is perfectly developed, the term typhus is remarkably applicable to the weak or smothered fire. In short, all those symptoms which medical men call typhus, typhoid, low, putrid, or malignant, are referrible to this affection. I will venture to say that no man ever saw a case answering that description without such a special bronchial affection.

Again:—the liver and the mucous membranes of the stomach and bowels are found in the state I have mentioned, and you have indications of it during life; the stools show, for example, either a deficiency or a depravity of bile, but generally the latter; they are offensive, greenish, or like dark melted rosin, or oleaginous, or sometimes tarry. So, also, you will have slight uneasiness on pressure over the epigastrium, a vividly red tongue, a pungent heat over the inflamed part, and all the other signs which I have in the preceding lectures enumerated as characteristic of inflammation of the mucous membrane of the alimentary canal.

Recollect, however, that the most destructive inflammation may go on in the brain and bowels without pain, on account of the intensity of the bronchial inflammation; which prevents the natural change from taking place in the lungs, so that the blood operates as a narcotic, and destroys the sensibility of the inflamed parts.

You must, then, look for a definition of typhus fever to the combination of symptoms, to the course which they take, and to the ultimate effects which they produce; and with regard to the treatment, you must consider whether it is the intermittent, the remittent, or the continued form of typhus fever. Let us next consider—

THE MEDICAL TREATMENT OF CONTINUED TYPHUS FEVER.

From what I have said you will see how absurd it is to prescribe for mere names. If a man were to treat intermittent typhus fever as he would remittent typhus fever, he would commit a great error of practice: if he were to treat the first form of typhus fever of the continued variety as he would the second or the third forms which I have described, his treatment would be most fatal. Yet in books it is set down, and in schools and colleges it is taught, that a certain treatment is proper for cases of typhus fever, and the same treatment for all cases. But what need we the authority of colleges, who give us mere names without any definite meaning,—who shroud their own ignorance under the semblance of learning, but who in reality stand in the back ground, opposing the dark shade of their absurdities in sombre contrast with the splendour of modern science! Let us despise the names and conjectures which they hold out to us, and let us come soberly to the investigation of the truth. The time is at hand when the attention of the public will be roused to the subject, and when the respect now so extensively paid to names and authorities will be paid only to the truth. In fact, we must not pin our faith upon the testimony of the ancients, but must investigate facts by a reference to the phenomena of nature alone.

With regard to the—

TREATMENT OF THE FIRST FORM OF CONTINUED TYPHUS FEVER,

you will recollect that it commences with a high degree of excitement, and the patient generally requires copious bleeding to save his life. While the skin is intensely hot and dry; while the pulse is frequent, round, and resisting; while the brain is much embarrassed, &c.; the most active depletion is necessary.

I attended a case with a pupil of mine, where, on account of the inflammation of the brain, one hundred and eight ounces of blood were abstracted. Had this patient not been actively treated, he would have sunk under the affection very rapidly.

The rule in the application of blood-letting in these cases is, to remove the pain in the head and the fever. In the case which I have just related, one hundred and eight ounces of blood were necessary to be drawn for that purpose, but it was an extreme case. You will generally succeed by drawing twenty, thirty, or forty ounces of blood, if the patient faint; generally about fifteen ounces at once will be sufficient. Sometimes after the first bleeding no further abstraction of blood is necessary.

But besides blood-letting there are also certain other means which you may adopt.

One of them is the application of cold to the head, while the head is hot and dry: the scalp should be shaved and the head elevated. If the acute inflammation have gone by, and a state of sub-acute inflammation remain, leeching the temples will be proper as long as the pain continues.

During the whole progress of the affection calomel purges are proper, so as to open the bowels three or four times every day. In all forms of disease which arise from malaria calomel really is almost a specific, and has a peculiar influence over the intermittent, remittent, and continued forms of typhus fever. You may give the patient from three to five grains of calomel with eight or ten grains of rhubarb, following it up by cold drawn castor oil—while the excitement is high. When the excitement abates you will generally find the following sufficient:—a grain and a half of calomel and five grains of rhubarb, with a drachm or two of castor oil. It is astonishing how much offensive matter will be dislodged daily by these medicines. No other medicine is required; but, as neither the patient nor his friends will be satisfied without something further, it is justifiable and morally correct to prescribe a placebo, which may consist of a little coloured water.

The diet should be strictly spare and bland, as I have so often explained. With regard to the—

TREATMENT OF THE SECOND FORM OF CONTINUED TYPHUS FEVER,

in which the pain and inflammation are less urgent, and in which the excitement is more moderate:—in this form of the affection, which is very common in London, moderate abstraction of blood will be sufficient, and will serve to convert the inflammation to a state amounting to almost nothing in its comparative importance. Your object in blood-letting is to remove the pain in the head and to lessen the fever. Many pupils in the Borough have this form of typhus fever. All whom I have seen

have been bled moderately, and all have recovered. If you cut it short at all you must do it in the onset. If you fail to do this in the first few days, it usually runs on from fourteen to twenty-one days : it generally becomes what old nurses call a one-and-twenty day fever. This is an important fact, which teaches us to know the extent of our ignorance, and prevents us from doing any harm. I rarely bleed after the sixth day. When the bronchial affection has once set in you cannot stop the course of the fever : you might as well expect to stop one of the planets in its course ; and then the milder the treatment the better.

You should be particularly on your guard in the exhibition of certain medicines, such as saline draughts, sudorific and antimonial mixtures, for I have known life after life sacrificed to such medicines, and I again repeat, that they very often do an immense deal of mischief by irritating the mucous membrane of the whole alimentary canal ; they are not simple things, but complicated and severe remedies as far as their effects are concerned. If ever, therefore, you prescribe them, watch them narrowly. If you give any thing of the kind, let it be something that will do no harm.

The great secret in the treatment of this form of the affection is not to do any harm. At the period when the bronchial affection has set in, calomel given daily is nearly a specific ; and the only circumstance which would render its omission necessary would be bloody stools : if these occur you must discontinue it, but if not you may go on day after day till the tongue becomes moist.

The means on which you are most to rely as affording the best chance for the patient's recovery, are local blood-letting if necessary, mild aperients, a bland diet, fresh air, absolute rest in bed, and quietude. With regard to the—

TREATMENT OF THE THIRD FORM OF CONTINUED TYPHUS FEVER,

in which the degree of excitement is low from the onset, it requires to be very mild.

I had a patient who was admitted into the Fever Hospital, with inflammation of the brain, inflammation of the mucous membrane of the stomach, inflammation of the mucous membrane of the ilium, and inflammation of the mucous membrane of the bronchia, under the third form of continued typhus fever. If a few ounces of blood had been drawn from this patient it would have been fatal ; yet he recovered by the cautious application of leeches to the temples and pit of the sto-

mach; by mild purges of calomel followed up by cold-drawn castor oil; and by a bland diet, with rest, and quietude.

The chief means to be relied upon are the following:—the cautious use of local blood-letting (leeching only if there be pain in the head, or if there be a red-tipped tongue with raised and red papillæ), fresh air, quietude, mild aperients, and a bland diet. In this form avoid general blood-letting: when once the bronchial affection is set in the time for general blood-letting is past. If the inflammation require the application of blood-letting, you must leech cautiously, watching the effect of the leeches. If the pulse sink, do not repeat them; if the respiration become feeble, do not repeat them; if the voice become feeble, do not repeat them; if the position become more sunk, do not repeat them; if there be less power of exertion, do not repeat them. This inflammation is passive: the heart's action is sunk, and struggling to carry on the circulation; the whole mass of blood is tainted; and though all the parts which I have mentioned are intensely inflamed, yet you cannot, on account of that taint in the blood and on account of the prostrate power of the heart and arterial system, treat it as active inflammation. I would warn you strongly against all active measures when once the tongue becomes glazed and brown and dry, and the bronchial affection is perfectly developed. It is astonishing how patients will be revived by fresh air, which is by far the best possible cordial you can administer. Wine in these cases is very beneficial if the patient be restless.

An old gentleman, a student here, between fifty and sixty years of age, had come to London for the purpose, as he said, of making himself acquainted with modern medicine. I felt almost ashamed to give a ticket to a man of so much humility. This gentleman had an attack of typhus fever. His lips and cheeks were pallid and blue; his tongue was brown and glazed; his teeth were covered and crusted with sordes; his extremities were cool; his body was covered with petechiæ. In this state he was placed in a current of fresh air, the bed-clothes being carefully tucked under his chin to prevent his being chilled. In a very short time the affection put on a more favourable character, and he ultimately recovered.

The practitioner must not do too much. He must often be a mere passive spectator, but then he should ascertain that the general management is attended to. A sick room should be sacred; and if a medical man observe any thing wrong there, he should not notice it before the patient. It is necessary that he should have a perfect command of his temper; and, like the sailor in the play, he should allow his heart to be broken rather than his temper to be ruffled.

With regard to—

THE REGIMINAL MANAGEMENT OF CONTINUED TYPHUS FEVER,

I would say that you must be cautious about the following points:—

1. The diet—

which should be bland and spare. Generally speaking, three bland meals in the day will be sufficient: say a little gruel, or thin arrow root, about a tea-cupful in the morning, another at noon, and a third in the evening.

2. The drinks.

Upon the whole, nothing answers better than good water, acidulated with a sprinkling of lemon-juice or orange-juice if there be not much irritation of the mucous membrane of the bowels. The orange or lemon-juice should be strained through fine muslin, in order to avoid the pulp and seeds and skins of fruits, which frequently produce disorder by irritating the mucous membrane of the bowels. I prefer lemon-juice, and next to it the oxymuriatic acid. Acids in their remedial efficacy stand next to calomel. They act on the bowels and liver, and are extremely serviceable in the last stage, &c., when the use of calomel is prohibited.

The next object is to preserve the most perfect state of—

3. Quietude and absolute rest. And the next, to regulate—

4. The temperature.

1st. Regulate the patient's clothing: avoiding on the one hand a chill, on the other too great heat.

2d. The temperature of the body should be attended to. If it be very high it should be reduced to the natural standard by tepid bathing. If the heat fail in the lower extremities you must increase it by artificial means.

3d. The temperature of the apartment should be regulated, especially at night. This should be particularly attended to in private practice. Nurses are apt to consult their own feelings rather than the welfare of your patients, and hence they often make large fires in the night. This points out the necessity of investigating the moral character of a nurse, as your reputation must frequently depend upon it.

4th. When the disease is going on, and during the whole progress of typhus fever, the head should be kept cool: shave the head and apply evaporating lotions.

5. Ventilation.

Have plenty of fresh air admitted into the room, but do not suffer a current of air to cross the bed.

The muttering delirium which occurs towards the close of typhus fever is relieved very much by fresh air.

6. Cleanliness.

The stools should be passed into water, and immediately removed. The urine should not be left in the room.

The next point is to render the patient every possible—

7. Proper assistance ; and every—

8. Possible comfort.

In short, you must endeavour to save the patient's strength in every possible manner.

In the last stage a very guarded treatment is required. The heat is sunk, the pulse is small, and the strength is prostrate ; but the best test is the patient's becoming giddy and blind if he get up. If he have these symptoms, on no account let him again be lifted up. The stools must be passed in the recumbent posture, and cleanliness will be particularly necessary. When the nurse washes the patient tell her to dry the skin thoroughly, till it is polished, to prevent sloughing. A piece of oiled silk covered with flannel placed under the patient, will be useful to keep the bed clean, and may be removed when necessary.

In these cases, particularly, take care that the urine is passed every day. When the patient lies on his back and moans incessantly, there is generally a distention of the bladder from an accumulation of urine. There is, also, mostly, a dribbling, so that the patient's linen and the bed are wet ; but you should not suffer this to mislead you. These symptoms indicate the necessity of the introduction of the catheter. Sometimes distention of the bladder is attended by a cold shivering ; therefore, whenever a rigor occurs always examine the bladder.

The back must also be examined to ascertain whether there is any redness or ulceration. If any portion of the skin be red, pillows must be placed under the patient to prevent pressure on the part, which may be washed with spirits of wine and water, and covered with emplastrum plumbi spread upon soft leather. When ulceration occurs, a poultice will be the best application.

You should daily endeavour to inspire confident hope of recovery. Many patients die under typhus fever from depression of mind. Hence fathers and mothers so frequently fall victims to it ; and many recover from the influence which the confident hope of recovery has upon them.

I attended a pupil at this school who was under great mental anxiety from pecuniary embarrassments, and he died.

Rush, who has been called the American Sydenham, mentions a very remarkable and interesting case, showing the influence over typhus fever which is produced by cheerful impressions on the mind. When a youth he was educated in the country, in a very remote part of which he was in the habit of visiting, in company with a farmer's daughter, various scenes of beauty and sublimity, and, among others, the nest of an eagle in a romantic situation. For some time these visits were very frequent. Rush afterwards left the school, and settled in Philadelphia, where he found his former associate a married woman. Many years after she had an attack of typhus fever, under which she lay in a complete state of insensibility, apparently lost to all surrounding objects. In this state Rush, then a physician, was called to visit her. He took her by the hand and said with a strong and cheerful voice, "The eagle's nest!" The words revived an association of ideas comprehending the actions of her youth. She immediately grasped his hand, opened her eyes, and from that hour recovered rapidly.

This shows the influence the mind has on the body when prostrate with disease; and that, when patients are apparently dying, they will often recover from that state by the stimulus of pleasant impressions on the mind.

Never allow the patient to transact business or to make a will unless the case is very desperate; but endeavour to stir up the energy that remains, to throw off the deadly oppression. Cheer up the patient, and he is almost sure to do well.

When the patient becomes torpid and insensible to external impressions, then blisters may be applied, but not whilst the stage of increased sensibility exists unless the spinal cord is affected. After leeches you may apply one to the nape of the neck or to the epigastrium. Never apply a blister early in this affection.

Some cases of continued typhus fever require the exhibition of wine, but you should always watch its effects very narrowly. When the heat falls on the surface, and the breathing becomes weak, and the pulse becomes feeble, soft, and compressible, and the muscular power universally prostrate, then wine is sometimes very beneficial; and in these cases attend to the following points, in order to be precise in its application:—

1. If the tongue become more dry and baked, it generally does harm; if it become moist, it generally does good.

2. If the pulse become quicker, it does harm ; if it be rendered slower, it does good.

3. If the skin become hot and parched, it does harm ; if it become comfortably moist, it does good.

4. If the breathing become more hurried, it does harm ; if it become more deep and slow, it does good.

5. If the patient become more and more restless, it does harm ; if he become more and more tranquil, it does good.

You must be cautious in observing its effects ; and till you see which way they tend you should give it only in tea-spoonfuls, gradually increased.

I seldom give wine and bark in typhus fever, except as I have mentioned in the remittent variety. In at least a thousand cases which have fallen under my care I have not used two bottles of wine in the advanced stages. Keep the bowels open, and it is astonishing how fast patients recover.

Towards the close of some cases there is a cool skin, a feeble pulse, a weak respiration, a tongue moist at the edges and glazed in the centre ; and then stimuli, in the form of wine, porter, &c., may be given with safety, and even with advantage, under the precautions I have just mentioned ; for then there is a gorged state of the capillary vessels, with a deficient action of the heart.

Confirmed drunkards require occasional stimulants. They should be watched with great circumspection, as they sometimes sink into a state of universal collapse : and then wine may be given with great benefit, but should be discontinued as soon as excitement is produced.

Sometimes opium does good in the advanced stage, especially where the patient is extremely restless.

I saw a lady in the country with a most violent attack of typhus fever. Some of the family had typhus fever also, and it could be distinctly traced to malaria as its origin. This lady was constantly tossing to and fro in her bed ; her pulse was quick and quivering ; and her position was sunk. I gave her a full opiate, which produced a most tranquil sleep, and she ultimately recovered.

You must, however, be very cautious about the use of opium. It does harm invariably, except when the patient is at the same time extremely exhausted and excessively restless.'

Sometimes, however, when hemorrhage from the bowels is very considerable, and the tongue is moist, opium may be given with great advantage : the patient must also be kept recumbent, in a fresh atmosphere ; and recollect that you must do everything in your power to preserve the strength, by avoiding all demands upon it.

With regard to the—

PROGNOSIS OF CONTINUED TYPHUS FEVER,

the medical practitioner should be extremely on his guard; for patients sometimes recover amazingly when the disease is far advanced.

The prognosis should be drawn chiefly from an attentive consideration of the age of the patient, and his previous habits, the state of the organs affected, and the stage of the disease.

Very few children die who are seen from the commencement, not above one in fifty.

Under the wine and bark system typhus fever is dreadfully fatal, and very few patients recover compared with the number who recover under the plan which I have just recommended. The success of the latter plan is indisputably greatest.

I met with an individual who told me that some friends of his lost only one patient in six of typhus fever; but he confessed that his own success was not so great as this. I told him, that if rightly managed not one patient in one hundred ought to die of typhus fever.

In adults under forty years of age, who were previously healthy, the fatality ought not to be more than one in thirty.

In old weak persons, above seventy, it is generally fatal, on account of the severe bronchial affection which often occurs in them. But many old individuals previously in health, recover; though, generally speaking, I repeat that the majority of old individuals (who have only vitality enough just to creep about) labouring under typhus fever die.

Most confirmed drunkards die. When the mind is depressed the danger is very great.

Of patients first seen in the advanced stages the mortality, if properly treated then, will range from one in six to one in twelve. Such cases are often brought into the Fever Hospital.

Practitioners of the present day might be referred almost without exception to one of the following heads or classes:—

One class there is who consider the pathology of typhus fever to be weakness, and they give their patients wine and bark from beginning to end of the attack. Some individuals take up this opinion from a want of thought; others like to have the sanction of great names to the opinions which they hold, and therefore take them up from interest. But if you appeal to symptoms, to the conditions upon which (as proved by dissection) these symptoms depend, and to the effects of remedies, you will find that typhus fever is not abstractedly weakness,

even in the continued form, but disorder of the brain, spinal cord, bronchial linings, stomach, liver, and intestines, and, in the last stage, tainted blood.

Another set of individuals, consisting mainly of the younger branches of the profession, look upon the inflammation as the cause of typhus fever, and they trust entirely to the lancet in all stages of the affection. Blood-letting is their main remedy ; and their treatment is just as fatal as that of the first class, who by wine and bark, as these by depletion, send crowds of patients under typhus fever to the grave. Against this opinion, and the practice founded upon it, I protest as erroneous and dangerous.

A third class consists of men who are sceptical as to the propriety of the practice of the old physicians, but who know nothing of modern pathology. If you ask them what typhus fever is, they will admit that they do not know. They will tell you that medicine has no influence upon it—that it will go on for a time : and they leave it to run its course. The consequence is, that though many of their patients recover, yet many others die for want of proper treatment. Scepticism often arises from superficial observation. It has been said that “a little learning is a dangerous thing.” In medicine a great deal of learning is also a dangerous thing. Medical men are in the habit of learning too much from books, from records of the opinions of men in the present and the past ages. This shuts them out from the study of the important and extensive volume of nature, which the Deity himself has laid open for their use, and which should form the object of their investigation and deep reflection every day. There is—

A fourth class, who may be called rational. They neither assert that typhus fever is weakness, requiring only wine and bark ; nor, assuming that it is inflammation, rely solely on the abstraction of blood as its appropriate remedy ; nor do they say that medicine has no influence on it, but they contend that it is highly efficacious. They pay minute attention to the symptoms and to the effects of remedies under various circumstances during life, and to the dissection of fatal cases. They investigate the particulars of each case, and are thus enabled to treat it with comparatively great success. It is of this class of men, who educate themselves at the bed-side of the sick, and attend to minute circumstances, and are not led away passively by the opinions of men, I would have you form a part, and I will venture to assert that your success will be fully as great as that which I have pointed out. If any man think that the science of physic is a trifling and laughable thing, a mockery only concealed by the semblance of seriousness, he should entirely

leave the profession, as his practice must be as fatal as his opinion is false.

PROBABLE IDENTITY OF TYPHUS FEVER, YELLOW FEVER, AND PLAGUE.

Typhus fever undergoes some remarkable modifications, especially by the influence of climate; and as I am inclined to believe,—nay, as I have no doubt, that what are commonly called plague, yellow fever, and typhus fever, are modifications of the same affection, I shall mention some facts to endeavour to prove their identity,—at all events that there is a connexion between them.

In the year 1814 I saw several cases of yellow fever, with enlargement of the glands of the neck, with yellowness of the skin like gold, and (when it was fatal) with black vomit. Each of these individuals had journeyed through marshy districts in France, and the attack came on two months after their return home to this country, at a time when their health was disturbed from irregularity of living. These cases put on the character of typhus or yellow fever in their progress.

In the year 1818, I had several cases in the Fever Hospital of the same kind; evidently from malaria. Heat here seemed to be the modifying circumstance. Heat predisposes to affections of the liver, and hence the yellow skin.

Dr. Hamilton, of Lynn Regis, one of the best practical physicians this country ever produced, has given an account of a marsh fever which prevailed in Norfolk, in which the patients had all the symptoms of the yellow fever of hot climates.

The term—

YELLOW FEVER

is used very vaguely. It is an abstract, and consequently a deceitful term. It comprehends three different affections.

1. If inflammation of the liver occur in hot climates, the skin is yellow before its close.

2. If common inflammatory fever arise from the influence of heat, the skin becomes yellow. The Dutch call it the 'inflammatory endemic of new comers;' it begins with a hot stage, puts on an inflammatory character, and is the common fever of new comers, who are exposed to the heat in the West Indies and have an attack of fever which was at

one time supposed to be contagious, but which is proved to arise from the influence of heat on a predisposed individual.

3. A third affection puts on a continued, a remittent, and an intermittent form, arising from malaria; and in the progress of this the skin becomes yellow.

A friend of mine, a resident in Demerara, traced many cases of this kind distinctly to malaria.

A similar affection has occurred in Spain and in America, and has been called the yellow fever.

As far as these symptoms go, it is clear that the affection is intermittent, that it is remittent, and that it is continued; and that these three forms are converted into each other. And the morbid anatomy, as far as I have seen, has been the same as in the typhus fever of our own country, with the mere exception of the yellowness of the skin.

In Boston, in America, the yellow fever was formerly very prevalent. Since the earth's surface there has been kept clean, and it has been well drained, the disease is very rare there.

In New York, where malaria abounds, where the drains are bad and the surface of the earth filthy, yellow fever is still very common.

With respect to—

PLAGUE,

the term was used very vaguely in ancient times, being applied indiscriminately to designate any epidemic or disease which prevailed extensively. Since the time of Procopius, however, it has been confined to a form of fever in which buboes and carbuncles frequently appear: that is, enlarged inguinal glands and ill-conditioned boils. But as these occur in typhus fever, we are not authorized on account of them to consider the affections different.

When I discovered that typhus fever arose from marsh effluvia, I suspected that yellow fever resembled typhus; and that typhus fever, yellow fever, and plague, were the same affection modified by circumstances. Shortly after this I met with a case of typhus fever, in which the bubo was most distinct. An old nurse in the Fever Hospital told me that in cases of typhus fever she had frequently observed bubo, but that it had always been in severe cases. Since then I have met with many cases of typhus fever in London, where there has not only been a distinct bubo in the groin, but there have also been carbuncles in different parts of the body. I have seen many such cases in the Fever Hospital, and many in private practice.

As far as the history which Sydenham has given goes, the analogy is perfect as far as the symptoms are concerned. In the time of Sydenham plague-spots were thought characteristic, but they were only petechiæ. The affection, however, which occurs now in London is in many instances quite as severe as that described by Sydenham.

In the Fever Hospital, where patients are brought in the last stage of typhus, when it has run a course of two or three weeks, such cases may be frequently seen; and if typhus fever were as contagious as it is believed to be, it ought long since to have depopulated London rapidly extending on every side: since the contagion would have been equally diffused in all directions.

Sir James Macgregor mentions that the plague in some cases puts on an intermittent, in others a remittent, and in others a continued, character.

A German physician who was sent to England by the Emperor of Austria, and who had been in various parts of the world, told me that in Turkey he observed that the pestis put on an intermittent, a remittent, and a continued, character, and that his firm opinion was that it arose from malaria.

A friend of mine from the pest-house at Constantinople, came to the Fever Hospital. I took him to the bed-side of a patient labouring under typhus fever and said, what do you call this case? He replied, plague!

In Constantinople, the pestis begins in May, and decreases after October. The same occurs in Smyrna. On the shores in the line of the Euphrates and the Nile the pestis is very common, and it is remarkable that the inhabitants from time immemorial have attributed it to some slimy exhalation from the river.

Some persons assert that plague is contagious; others as confidently deny that it is contagious. It is astonishing how vague the opinions of some men are upon the subject.

I saw the captain of a ship who had been at Smyrna while the pestis was prevalent there, and I was anxious to obtain as much information as possible upon the subject. All, however, that I could get from him was that it was contagious, though all the facts which he mentioned to me were at variance with such an opinion.

The pestis never appears in the lazarettes of this country. Now, if the disease be contagious, how is it that it does not prevail there?

A friend of mine who resided in Constantinople told me that he thought it was not contagious; that the father sleeping with his child who was affected had not the pestis; that a child sucking at the breast

of its mother labouring under pestis was not affected: and that it prevailed in solitary instances and in solitary places.

We have also the opinion of a distinguished individual who is now numbered with the dead,—the opinion, I mean of Bonaparte—who was one of the most accurate observers of nature in his day. He believed that it arose from exhalations from the surface of the earth.

The people in this country when pestis occurs, think that it is not contagious, but they think that typhus fever is contagious. The people have taken this opinion from the profession. Opinions often remain deep rooted in the public mind long after they have been discarded by the profession, from whom they were first handed down to the people.

The name only has been changed, but the disorder remains the same; and I think we have nothing to fear from the contagion either of typhus fever or of plague.

The more I investigate the subject, the more and more I am convinced that the doctrine of contagion is erroneous, and that the alarm which has been excited in the public mind in London is unfounded in point of fact.

There is a remarkable uniformity in all the operations of nature, which becomes obvious when the subject is well understood; and I believe that the laws which regulate human maladies are as fixed as those which regulate the movements and order of the planets. If you ascertain their varieties, you will find them uniform. Some circumstances modify the tides, and yet a general law obtains with respect to them. So also some circumstances modify diseases; but laws—general laws, obtain as much with respect to them as with respect to the tides. And although the general law in regard to the pathology of fever is, that it is congestive; that it is simple; that it is inflammatory; yet it is equally certain that it is modified by various circumstances, some of which are peculiar.

If these lectures have any value, it arises in the first place from the development of general principles; and in the second place from the particular detail of facts and circumstances by which the general laws and principles are modified. In fact it is the development of general principles, and the detail of particular facts, in reference to general pathology and practice, which constitute all that I can lay claim to. This is all that can be associated with my name. My name, however, amounts almost to nothing; it is a faint sound which has arisen, and which, though it may endure for the present, can descend to no late period, but will surely be lost in the immensity of future history. But the principles which I have taught, being true now, will be equally true

hereafter, and will be transmitted when my name has been long forgotten—will remain essentially unaffected either by circumstances or by time. And if I have been anxious—extremely anxious, to impress those principles upon your minds, that anxiety has arisen from no personal considerations, but solely from a conviction that the right application of them to practice will enable you to lessen the sum of the physical sufferings and moral distress of your fellow-creatures.*

LECTURE XXXIX.

PECULIAR FEVER.

SYMPTOMS, PROGRESS, MORBID ANATOMY, DIAGNOSIS, AND TREATMENT OF SMALL-POX.

INOCULATION AND VACCINATION.

WHAT is commonly called variola or small-pox is contracted in two modes. It arises—

1. From casual exposure to it, and is then called natural small-pox.
2. From inoculation of small-pox matter, and is then called inoculated small-pox.

When it arises from casual exposure, it most frequently appears about the twelfth day from that exposure: sometimes, though in rare instances, at a considerably later period. I know an instance in which more than a month intervened between the exposure and the appearance of the disease. I know another instance in which it appeared at a much earlier period after exposure. This individual was walking in Lincoln's-inn Fields and met a child with small-pox with a woman who followed her and asked if she did not think it was a fine sort. She was extremely alarmed, and said she "felt her blood curdle in her body," and in three days the eruption came out.

When it arises from inoculation it most frequently appears about the eighth or ninth day; sometimes as early as the seventh day, sometimes as late as the eleventh day, after inoculation. The spot has a certain course and character, and about the eighth or ninth day the eruptive fever comes on; the skin becomes hot and the pulse quick, and a similar eruption most frequently appears about the stomach or some other parts.

Before the character of the disease is defined there is a stage which has been called—

ERUPTIVE FEVER.

The patient complains in the first instance of more or less chilliness,

shivering, and aching of the head and back. This passes away, and the surface becomes hotter and the pulse quicker than natural, and the tongue more or less furred: there are, in short, the common symptoms of fever.

It is the fever which precedes the eruption of the rash, generally lasting three or four days; and during the continuance of this fever it often happens that the patient complains of uneasiness, particularly about the pit of the stomach, which you will often find accompanied by a tongue red at the tip; and the patient often has a heavy look about the eyes which are redder than natural, with nausea, retching, or vomiting.

A person having these symptoms when small-pox is prevalent, you may reasonably suspect that he will have it. Most frequently the eruption appears about the third day of the eruptive fever, sometimes as late as the fourth day.

I saw a case recently which was supposed to be one of typhus fever. The eyes were red, the patient complained of uneasiness about the stomach and head, and had some minute spots upon the skin. It was simply small-pox.

When it is prevalent, never venture to give a positive opinion in the very onset of either a slight or very severe degree of fever, because you may be deceived until the eruption appears.

The eruption generally appears first about the face, then, successively, about the neck, the trunk, the upper extremities, and lastly about the lower extremities. Usually the eruption is completely finished in about three or four days from its first appearance.

Van Swieten remarks that cases have occurred in which the eruption has not been finished till six or seven days: this depends upon the management of the patient. I believe that if half the body be kept hot, while the other half is kept cool, the eruption will continue to come out for several days longer in the hot than in the cool parts.

I saw a case in which some parts which had been kept warm were covered with eruptions, whilst on other parts which had been kept cool the pustules were very few. Hence it is that the eruption is often very considerable about the bend of the elbows, the hams, &c.

There are two kinds of pathology; and in reference to the external pathology, the common distinction of small-pox is into two kinds, known under the terms distinct small-pox, and confluent small-pox.

1. In distinct small-pox each eruption is separated from the others. The pocks do not touch each other, or cohere, or run into each other, but each stands in a separate portion of skin.

2. In confluent small-pox the pustules run into each other and coalesce completely.

This description is obviously drawn from the mere external appearance. Almost all ancient physic consisted of such symptomatical pathology; and the reason was, that bodies were not examined after death, and therefore all the internal pathology was bare conjecture. Almost all the old writers from their ignorance of the morbid anatomy have drawn their account from external pathology: hence the division I have alluded to. As these terms, distinct and confluent small-pox, are those which are in common use, I shall adopt them here, and explain the internal pathology of each as I proceed.

Distinct small-pox appears under two forms.

SYMPTOMS OF THE FIRST FORM OF DISTINCT SMALL-POX.

The first and most severe, which is commonly known by the name of distinct small-pox, is preceded by the eruptic fever, which continues for about three days; and the symptoms which then designate the affection are the following:—

1. A small red point or spot is observed on the skin, generally at first on the face, then on the neck, trunk, and lastly about the upper and lower extremities. It is faint at first, and becomes stronger and stronger as the disease advances, so that in twenty-four hours it is obviously red and elevated.

2. This spot becomes a vesicle about the end of the second or early on the third day. The cuticle is raised upon that point which was first reddened, and it is filled with a thin transparent serous fluid.

3. The most characteristic sign is that this vesicle, which is cellular in its structure, has a central depression on its surface between the third and sixth day; but, as the vesicle becomes completely distended and more globular, this indentation commonly disappears. It is such a depression as a pin's head might be put into. It does not occur upon every vesicle, but upon a great many. As the eruption comes out later on the lower extremities than on the face, you may sometimes see a depression there on the seventh or eighth day. Frequently an opaque spot is left on the centre where the depression existed.

4. This vesicle becomes a pustule. It ceases to be distended by a transparent fluid, but is distended by a purulent or puriform fluid. Either the transparent fluid is absorbed and pus poured out, or the fluid is changed into pus: hence the term pustule. At this period, which is between the sixth and ninth day, each pustule has an appearance like

some of the imitations of pearls which are made from glass or from rice. At this time what is called maturation is completed: generally about the eighth, ninth, or tenth day of the distinct eruption; in milder forms about the eighth day from its first appearance, and hence it is called the maturation-day.

5. Around each pustule you may observe a small red elevated base.

6. About the seventh day each pustule becomes yellow, then brown, lastly of a very dark brown, and this scabbing or incrustation generally takes place two or three days after the maturation. The scab is a sort of plano-convex lens, which falls off after a few days, and leaves a pit, which Sydenham has observed arises from a slough.

A gentleman who ranks high in the medical world, was rejected in the early period of his life for what was considered a piece of impudence. At his examination he was asked to describe the character of the pit left by the small-pox. Raising his finger to the face of one of the examiners, he said, "*Ecce signum Domine!*" He is yet living, and I am told that he has still a great propensity to punning whenever he has an opportunity.

The pits are not a necessary part of small-pox. Various expedients have been recommended and tried in order to prevent them, but there is only one which can be relied upon, which is to prevent premature separation of the scabs. If the disease occur in a child and it be allowed to pick its face, pits will certainly be the consequence. The same will sometimes arise from the premature separation of chicken-pox. The scabs should be allowed to fall off of themselves.

During this local process certain other changes take place.

When the eruption appears on the face it begins to swell, as is particularly evident about the eyes; and it subsides in the distinct small-pox when the eruption is completed. Then the hands begin to swell, and when the eruption is completed they subside; in like manner the feet begin to swell, and in their turn subside.

When the eruption takes place on the skin there is almost always some affection of the throat. On examination you will find it redder than natural. In the distinct form of small-pox there is seldom any material inflammation about the throat; and yet you should always examine it, for in almost all severe cases there is inflammation of the throat. If it be violent great care is necessary, as it is very apt to extend to the whole of the lining of the air-passages. You often see in the mouth a little yellow part seated in the middle of what would be a pustule, very like the pale yellow lichens attached to grey stones. These are aphthous spots, and not pustules, though they would be pus-

tules if they could : but it is physically impossible they can arise. These appear later and disappear earlier than on other parts. When they occur in great numbers about the throat the case is always severe.

During the eruptive form the tongue is generally covered with a slight white fur. When the eruption is finished, it is less furred ; and on its tip are often apparent attempts at the formation of pustules. It is moist if the patient be in a fresh atmosphere, but if the air be close and confined it is often dry.

When the eruption is finished in some parts, the fever is either wholly abated, or it is very much diminished. In books you are told that it always entirely abates, but this is not true ; for it often happens that a slight degree of fever remains, with the tongue a little furred, with the pulse rather quicker and the heat rather higher than natural, and with some degree of thirst.

At the period when the eruption is completed on the skin, you have a degree of salivation arising from irritation of the mucous membrane of the mouth and fauces.

The bowels are generally constipated throughout small-pox. Sometimes they are loose, and then you should be extremely cautious ; for though this diarrhœa very often depends either upon offending ingesta, or upon scybala in the colon, yet it may, and most frequently does, arise from some irritation or inflammation of the mucous membrane of the lower part of the ilium and upper part of the colon.

Sometimes what is called —

SECONDARY FEVER

occurs. It is the fever which arises about the period of maturation, from the ninth to the eleventh day. A patient has distinct small-pox ; the fever ceases or abates, but there is an accession of excitement about the ninth or eleventh day. The heat becomes higher, the pulse quicker, the patient becomes more thirsty and more restless, and the tongue more furred ; in short, the fever is distinctly increased.

The old authors and systematic writers of this country have described this secondary fever as a constant attendant upon distinct small-pox, which is not the fact. This is an erroneous opinion passively taken up without consideration. It is a prejudice which they have not troubled themselves to inquire into. Prejudice is the belief of an opinion which we have not examined with sufficient care. I recommend to you again what I have already so often mentioned, never to take up any thing for true in physic without examination. We should

make our observations with far more exactness than has been used ; and when nature contradicts the assertions of authorities, however great, we may confidently rely upon facts rather than the statements of any men.

I have seen several instances of small-pox in which secondary fever was totally absent. It very frequently occurs, but not constantly. When it does occur it is very often connected —

1. With irritation of the skin. This is most commonly the cause, but not always. The irritation of the skin is highest when the secondary fever occurs. The irritation of one pustule is trifling : it is attended with a pain like the puncture of a needle ; but the combined influence of the whole crop is sufficient to disturb the nervous system, and create those changes in the vascular system which we denominate fever.

It sometimes seems to be connected —

2. With the absorption of matter from the pustules. They rapidly decrease in size ; and if they be very numerous upon the body you have a tainted breath. The breath, in fact, is very offensive ; and the probability is, that the absorption of matter may increase the fever. Hence it is of consequence to prevent absorption by cleanliness. There is a peculiar factor about the body of the patient, by which in the dark I should know he had small-pox. By the smell, also, I could discover a case of typhus fever.

3. The interruption to the functions of the skin is another cause. When the functions of the skin are interrupted, the surplus of work is almost invariably thrown upon the internal mucous membranes, which are apt to be disordered. Hence you have irritation about the bronchial linings, and irritation about the intestines or urinary organs. These are the parts which are most apt to suffer ; and, therefore, you should direct your attention to them in all cases of secondary fever.

4. Accumulation of fæces or of urine may be the cause. Secondary fever was very common formerly when the bowels were neglected ; hence we find the old writers constantly mentioning the circumstance that the urine is frequently retained. Patients hardly ever now have retention of urine if the bowels be kept open, and the brain be not affected. When the skin is dry, the secretion of urine is sometimes copious ; and when the fæces become largely accumulated in the colon, the bladder becomes torpid, and the urine is retained. A portion of the fæces and urine is then absorbed into the blood, and sometimes you have a distinct fæcal and urinous odour from the breath and skin of the patient. This, then, was what the old authors called secondary fever.

If the irritation of the skin be slight; if the surface be kept remarkably clean; if the functions of the skin be not interrupted; and if the bowels be attended to; generally no secondary fever will occur.

SYMPTOMS OF THE SECOND FORM OF DISTINCT SMALL-POX.

This form has obtained a variety of names: it has been termed secondary small-pox, mitigated small-pox, modified small-pox, or the varioloid disease. By whatever name it is called, it is nothing more than a mild variety of distinct small-pox.

That this is merely a variety of distinct small-pox is proved by several considerations.

1. It has the peculiar premonitory symptoms of the other form of distinct small-pox—the eruptive fever.

2. The eruption comes out in a similar manner.

3. The vesicles have always a central depression.

4. Here, as in the other form of distinct small-pox, which I have described, the pock has a cellular structure, so that if you puncture one part with a lancet, you cannot evacuate the whole of the fluid. Both in this affection and the other forms of small-pox the pustule is not a mere rising of the cuticle, but is divided into cells.

5. The matter from these pustules will produce, by inoculation, distinct small-pox, or even confluent small-pox in particular habits.

DIAGNOSIS BETWEEN THESE FORMS OF DISTINCT SMALL-POX.

You distinguish this mild form from the other forms—

1. Because it stops, as it were about the middle, in about five or six days. It is regulated by some cause, the nature of which has not yet been determined.

2. The pock is generally harder and smaller, and has a pearly appearance. This constitutes what is commonly called horn-pox; a disease frequently mentioned by old writers.

Cullen's description of small-pox is drawn from that of Sydenham. If Dr. Cullen had lived to see the mischief of his writings, and the mental degradation they have produced, I believe he would have committed them himself to the flames. No publications have retarded the progress of medicine so much as those of Dr. Cullen. This is the reason why there has been so much fuss about mitigated distinct small-pox. Sydenham did not describe it; and therefore Cullen did not describe it, nor did the systematic writers who followed Cullen describe it. It occurs perfectly independent of vaccination.

I saw three cases in one family of children (and many more I could mention) who were inoculated by a friend of mine with small-pox matter. In one the disease stopped on the fourth day; in the second the eruption was completed on the sixth day; and in the third it appeared to be running on to the confluent character, when it suddenly stopped on the eighth day. If they had been previously vaccinated it would have been pointed out as a case proving the modifying influence of vaccination.

I have seen the same thing occur in casually contracted small-pox; and cases of it are recorded before vaccination was discovered.

It is the common opinion that vaccination modifies small-pox. This is not proved to be true. I have seen some instances, and I have friends of mine who have seen several, where small-pox has been extremely severe after vaccination. It is, however, the general belief, that small-pox is mitigated by vaccination, and much evidence has been adduced to prove it.

The work of Mr. Crosse, one of the latest which has appeared upon the subject, has been considered as decisive upon this point. Much as I respect the talents and industry of Mr. Crosse, it is my duty to observe that his evidence is not conclusive to my mind, because he has omitted many minute circumstances, as the moral character of the nurses, the diet which the patients took, the air which they breathed, and the temperature by which they were surrounded.

Among lawyers it is an assumption that a person is innocent till he has been proved to be guilty. Medical men should not assume that any opinion is true till they have proved it by most unquestionable evidence.

What I mean to assert is, that there is, independent of vaccination, a milder form than the ordinary distinct small-pox. I do not mean to deny the efficacy of vaccination; I have seen enough of it, however, to be perfectly confident that this form of disease arises entirely independent of vaccination; and I am afraid that some of the facts bearing upon this point have been suppressed. I have made many inquiries upon this subject, and all the evidence that I have collected accords with the opinion that vaccination does sometimes mitigate small-pox. This point, however, appears to me to be more presumed than proved. Yet I most sincerely hope, for the sake of the memory of Jenner, and for the sake of humanity, that it will hereafter be found that vaccination does modify small-pox, as writers have mentioned.

We shall now proceed to the consideration of the—

SYMPTOMS OF CONFLUENT SMALL-POX.

Confluent small-pox may arise either casually or from inoculation. It is almost invariably preceded by a most violent eruptive fever; so that, from the severity of the precursory symptoms, and from the great disturbance of the system, you might anticipate the form of the complaint, and suspect that it would be confluent. Compared with the first stage of distinct small-pox, the head and stomach are more affected, the expression of the eyes is more heavy, the breathing is more difficult, and the voice more husky, the skin is generally hotter, and the pulse generally quicker, the powers of life are more oppressed, and, in fact, the whole system is more disturbed. The throat is always affected at an early period; and you should remember in every case to examine the state of the throat. About the third day you may observe the minute spots so thickly scattered over the whole surface, that when they rise you are certain they must necessarily run together.

A very important distinction is to be drawn between two varieties of the eruptive fever which ushers in confluent small-pox: one is an open, and the other a masked form of fever. In the first form, which is an open—

I. INFLAMMATORY FORM OF ERUPTIVE FEVER,

the affection is of a highly inflammatory character. The fever is fully developed, with a skin intensely hot and dry, and a quick, bounding, expanded, pulse; the face is flushed, the tongue considerably furred. The face swells rapidly; and the swelling, instead of subsiding, as it does in distinct small-pox, continues through the maturation.

This form of fever frequently attends confluent small-pox in robust men, and runs on a certain number of days, as the excitement often does in typhus fever; and during its continuance the eruption rises and becomes perfect. The fever does not terminate, as in the distinct form, when the eruption appears.

In typhus fever something similar to the eruptive fever of small-pox takes place, but the excitement continues longer in variola than in typhus. In each of these, however, sooner or later, a change takes place, and from the same cause, namely, the supervention of a bronchial affection; and the powers of life give way gradually or suddenly.

After a time, generally about the sixth or eighth day, the fever of which I am speaking generally takes on the character of what is called

typhoid fever; it assumes, in fact, the masked form. The heat on the surface falls; the pulse becomes soft and compressible; the tongue brown and glazed; the voice and respiration feeble; and the strength prostrate. This form of the disease is seldom fatal before the ninth day, and is generally protracted still longer.

The other kind of fever attending confluent small-pox is a masked form. It is, in fact, a—

II. CONGESTO-INFLAMMATORY FORM OF ERUPTIVE FEVER.

There is a combination of congestion and inflammation, which prevents the full development of the excitement.

In this case the pustules never rise properly and the vesicles are paler than in the other form. If the pustules rise at all they are filled with a dirty turbid red fluid, or there is an effusion of blood into them, and there are often petechiæ scattered between them. Sometimes they never mature at all.

I saw a case in which it was disputed whether the disease was small-pox or measles; and it really sometimes looks like measles, only that here and there a straggling pustule proves the true nature of the disease.

All poor people say it is a bad form of small-pox, and observe how flat the pustules are.

In this form the disease puts on in the onset the character of what has been called typhoid fever. The heat on the trunk is smothered and hardly above the natural standard; the pulse subdued; the tongue becomes brown and baked, and the teeth covered with sordes; the respiration is weak and panting; the strength is exceedingly sunk; the eruption is copper coloured, or dusky, or mulberry coloured, with a leaden hue of the lips and a purple grape colour of the face, if there be any eruption there; and if there be no eruption you have a leaden or tawny hue of the face.

In both forms of confluent small-pox the points are so very numerous on the skin that you may perceive that if they fill they will touch or run into each other: in fact, that the eruption will be confluent.

Another thing common to both forms is, that in each you have all the signs of an overwhelming bronchial affection; which sets in at the onset of the masked form, and not till the open form of fever has continued several days. You have proofs of this in the leaden or dusky lip and cheek; the deep, stuffing, feeble, inefficient cough; the difficult and oppressed respiration; the dry, brown, and glazed tongue; the

compressible pulse; the cool skin; and the exceedingly 'prostrate strength.

In some cases of the masked form there is no cough at all, or at all events it is feeble: while the cough, if any exist, in the open form, is strong for several days; and the tongue, which in the first four days of the open form is moist and covered with a dirty white or yellowish fur, becomes early in the masked form brown, dry, and glazed, as in the genuine typhus fever.

The second form of confluent small-pox prevails chiefly in weak, feeble, delicate children, and is very common in London, where children, being badly clothed and fed, are tabid before the attack. This is the worst and most dangerous form of the disease with which I am acquainted.

Now it is obvious that you cannot manage these two forms alike: the treatment is entirely different.

It has naturally been inquired why it is that small-pox in one case assumes the distinct form, occurring as a mild epidemic variety of disease; and what is the reason that in other cases it occurs in the confluent form. The explanation lies in the consideration of four things.

1. The remote occasion is peculiar, and operates very remarkably. It operates specifically upon the skin, upon the heart, upon the mucous membranes of the air-passages, and I believe it operates specifically upon the blood also. We have distinct evidence of the blood being tainted.

I think the humoral pathology has been by far too hastily abandoned. A secretion is given off from the blood which is capable of communicating the disease to another individual; the heart's action becomes disturbed; the liver, the head, and the bowels, become disturbed, and seem to indicate a taint in the blood. The poison—which is a human contagion—seems to be more concentrated and violent in some seasons and places than in others. Sometimes the pathology of the affection is modified by—

2. Surrounding circumstances.

1st. It is modified by the air which the patient breathes.

In the cellars of London small-pox is almost invariably confluent and violent, while in garrets, especially in open streets where there is a free circulation of air, it is often distinct and generally more mild. Why this is we know not. The air of a garret and that of a cellar show the same properties upon analysis; but there is something in the latter which strikes and destroys, and is not the less evident because it is unseen.

2d. Another modifying circumstance is the temperature by which the patient is surrounded, and which often makes all the difference between the confluent and distinct forms of small-pox.

If a child with small-pox be kept hot during the eruptive fever, the disease is very apt to become confluent ; while another child, if kept cool, will most likely have the distinct form.

These two circumstances explain a great deal with regard to small-pox.

3d. It happens sometimes that in one epidemic almost all the cases are distinct, while in another they are almost all confluent ; and this seems to depend upon some surrounding circumstances which have not yet been discovered. It would be interesting to notice (which has not yet been done) all the concurring circumstances, especially the condition of the atmosphere, &c. which attend the general prevalence of the distinct or the confluent forms of the disease in different seasons. Possibly we might then arrive at a knowledge of some modifying circumstances with which we are at present unacquainted.

According to the observations of Humboldt, in South America small-pox has remarkable epidemic varieties ; at one time a mild and comparatively harmless affection, at another season it walks the earth like a destroying angel, sweeping off thousands in its progress. Here the modifying circumstances probably are to be found in the combined influence of heat, physical want, and moral excitement.

Another circumstance which modifies the character of small-pox is what is called —

3. The constitution of the patient.

If the patient be unhealthy before the attack, the disease is almost sure to put on the confluent form. Almost all children in London who have wasted, withered forms, and irritation of the mucous membranes of the air-passages, before the attack, have the confluent form of small-pox. The same obtains in measles ; and hence both these affections are far more formidable in London than in the country. Hence the advantage of preventing any break-up of the general strength is sufficiently obvious.

4. The medical treatment is another modifying circumstance upon which the form of the affection often depends.

No set of men have so much the pride of opinion as medical men ; and no set of men require to be self-humbled so much as they. It is not a knowledge of empty terms and sounding names which constitutes solid acquirements. We know very little of physic, because till lately we have not cultivated the science in the right way. Men are now beginning to study medicine properly, and therefore the

knowledge of our profession is now advancing with astonishing rapidity. The improvement of the last thirty years thrown into the scale, would weigh against all the knowledge of preceding ages. There is a great difference of opinion now between men educated in the old school, and those educated in the modern one ; but this will be of short duration : thirty years hence difference of opinion will cease to exist among medical men to any considerable degree.

The medical treatment has considerable influence on small-pox. A neglected diet, neglected temperature, an impure air, and the application of stimulants, will convert what would have been distinct small-pox into confluent small-pox ; and no doubt this was the occasion of the dreadful fatality of the disease in former times. The histories of small-pox as it occurred in the time of Sydenham, are very horrible. Patients were then confined in bed, loaded with bed-clothes, and kept in apartments stifling from the high temperature. This was the common treatment when Sydenham came to London and found the disease shockingly mortal. He had the simplicity of a child, and rose so far above the age in which he lived, that he not only discovered that this treatment was really bad, and sanctioned only by notions entirely erroneous, but had the high and positive merit of discovering and pointing out a method in every respect preferable ; and it is surprising that he made the most direct approach to the precise pathology, without any examination of the bodies in fatal cases. Men may say what they will of Hippocrates, but there is not a proof of genius like this in his works. Sydenham parted with his old errors, and for a great part of his life was rewarded with nothing but opposition, except that he had the substantial satisfaction of doing good where he confidently believed others would do harm. And though he was sent to a premature grave, doubtless he had a triumphant anticipation that his name would be respected by posterity. And his memory has been honoured ; his genius and his moral character have obtained the well-earned eulogy of all the good and the great men who have cultivated medical science in modern times.

MORBID ANATOMY OF SMALL-POX.

But let us proceed from the external to the internal pathology of small-pox. You must not take the superficial view of fever which surgeons are generally content with, but look to the internal parts of the body : appeal to morbid anatomy. By the examination of bodies after death, we make an approximation to first principles,—we ascertain the causes of death. The probability is, that some taint of the blood is

the cause of this affection assuming some peculiar characters. Almost all specific poisons operate on the skin and internal mucous membranes: for instance, malaria, those epidemic states which produce influenza, &c., the contagions of measles, small-pox, and hooping-cough, each operate on the skin and internal mucous membranes. The contagion of small-pox cannot operate but through the blood; and I repeat that in all probability there is some taint of the blood by which the skin becomes thus affected.

1. Distinct small-pox, with regard to its internal pathology, is nothing but simple fever; the inflammation being confined to the skin, and the internal organs being in a state of what I have called local simple excitement. If there be occasionally inflammation of the mucous membrane of the fauces and air-passages, it is but slight, and the vital organs are free from disease. Hence it is that few cases are mentioned of its being mortal. I never saw a case of distinct small-pox fatal.

2. That variety of confluent small-pox which occurs with an open excitement is clearly a highly inflammatory form of fever. The disease goes on, and what was irritation or excitement, in the distinct variety, here becomes the most intense inflammation of the lining membrane of the air-passages; and no person dies in confluent small-pox without your being able to detect the vestiges of such inflammation, beginning in the fauces, invading the pharynx and larynx, and extending down the trachea to the most remote ramifications of the bronchial tubes, as will be obvious if a careful examination be made. And this is not all; for you will frequently find proofs of inflammation of the mucous membrane of the bowels, especially of the ilium. Sometimes the liver becomes affected, which you cannot be surprised at; and I have been told upon good authority, that the vessels of the head of a person who has died of small-pox never bear injecting. One friend of mine attempted to inject several bodies, and the vessels in every instance gave way. The bronchial passages are invariably affected, the brain and bowels sometimes.

3. The last form assumes the congesto-inflammatory character, because it attacks weak subjects. If it be not speedily relieved the patient sinks and dies; and after death, besides a more intense inflammation of the air-passages, you often find the bowels, you often find the lungs, you often find the brain, and you often find the liver, gorged with blood, and a tree of blood in the mesentery.

It sometimes happens, as with malaria, that the specific contagion of small-pox destroys a patient at once, without any eruption at all. The person exposed to it dies in the cold stage, with a feeble pulse, a cool

skin, an oppressed respiration—in short, with symptoms of congestive fever : this, however, is comparatively rare.

In the 8th number of the *Medical Intelligencer*, for June, 1820, is a paper written by my friend, Mr. Alcock, which will be found to contain the result of minute attention to the symptoms during life, and to examinations of the morbid anatomy of the disease after death ; and he has indisputably shown that the cause of death in fatal cases is the intense inflammation of the bronchial passages. It is the most valuable publication on the subject since the time of Rhazes the Arabian, and contains more valuable information than any book I ever read on the internal pathology of small-pox. The view which Mr. Alcock takes of the subject, however, is not quite satisfactory ; it has one defect, its pathology is too exclusive. A more extended examination has shown what I have before mentioned, that sometimes the mucous membrane of the bowels, and sometimes the brain, is inflamed.

The reason why the fever is masked in one, and openly developed in the other case is, that in the former the intense inflammation of the mucous membrane of the air-passages, preventing the decarbonization of the blood, occasions it to put on the typhoid character at an early period ; while in the other there is a more free and copious expectoration, though after a time this form also assumes the same character.

DIAGNOSIS OF VARIOLA FROM VARICELLA.

Only one affection can be confounded with small-pox, and that is chicken-pox. Attend to the following indications, and you will be at no loss to distinguish the one from the other.

1. The precursory symptoms of varicella are far slighter than those of small-pox, generally speaking. Now and then there are exceptions to this. A friend of mine had a case in which the child died of inflammation of the brain ; and I saw a case of varicella where the affection of the head was considerable.
2. The eruption is more irregular as to the time of its coming out, as to its formation, and as to its continuance.
3. The vesicle is not so well defined.
4. The cuticle is not elevated around the base of the pock.
5. The vesicle is only a raised cuticle. It is not cellular as it is in variola, and if you puncture it the whole fluid contents will escape.
6. It has not the central depression ; at least I have never seen it. One friend of mine, who has seen between one and two thousand cases

of small-pox, has never observed an instance in which the central depression was not present.

7. The contents only become a turbid yellow fluid; they never become perfectly purulent or puriform.

8. Some vesicles burst by the spontaneous movements of the child in the first three days, which never takes place in variola.

9. The scabs are formed about the fifth day, and are much flatter than in variola.

Louis the Fourteenth was on one occasion travelling through a certain district of France, and arrived at a small town where he was not received with a salute. The mayor of the town, who was a very weak and vain man, waited on his majesty to explain the cause of the apparent disrespect to his royal person, and told his majesty that he had seven reasons; first, that he had neither powder nor shot. Here Louis stopped him, and begged he would not trouble himself to state the remaining reasons, as this was very sufficient. So, though I have mentioned nine points of distinction between variola and varicella, yet one only is to be relied on, which is the presence or absence of the central depression.

A very distinguished author, whose opinions are deserving of all respect,* gives, as the result of his inquiries, the opinion that varicella is a modification of genuine small-pox, and will sometimes produce small-pox. My observations have led me to a different opinion; but I have not perhaps had sufficient facts before me to enable me to decide. The author I allude to is Dr. Thomson, of Edinburgh, and to his work, which you will find very interesting, and which contains some very valuable facts on the subject, I must refer you. I wish to speak in these lectures from my own observations, and to give mainly the result of my own experience. It is right that a lecturer should have practised many years, and that he should have collected the opinions and practices of others, so as to be able to explain how his opinions differ from theirs.

Let us now pass on to the—

TREATMENT OF DISTINCT SMALL-POX.

In distinct small-pox there is a state of fever coming on before the eruption; this eruptive fever may be simple or inflammatory. If it be simple it requires a very mild treatment; but whether simple or inflammatory, whether arising from casual exposure or from inoculation, be not a careless observer; never allow it to go on without interruption:

it modifies the character of the future disease. Do not take up the absurd notion that small-pox is a peculiar disease,—a specific fever, which must go on and cannot be modified. If you see the disease early, and treat it properly, you may generally make it as mild as you can wish.

Sometimes inflammation is present (occasionally strongly marked in the brain, sometimes in the mucous membrane of the stomach or of the ilium,) at this early period, and if it be allowed to continue you have intense inflammation with confluent small-pox. I saw a young lady who had all the marks of inflammation of the brain, and she had great pain in the stomach. I treated these symptoms actively; it turned out to be a case of small-pox, and it was very mild. Had I not been prompt in relieving the inflammation of the brain, I am sure she would have died before the small-pox eruption came out. It is excessively absurd to allow the fever to run its course if it be severe. The quantity of eruption, if I may so speak, depends upon the quantity of fever; that is, upon the degree of the eruptive fever, generally speaking, depends the mildness or severity of the future attack.

If there be no inflammation you may open the bowels freely, and put the patient on a bland diet. Put the patient where he can breathe a fresh atmosphere, with a free ventilation, avoiding exposure to currents of air; let him lie cool on a hair mattress. Sponge the surface of the body with tepid water.

If there be inflammation you must remove it: bleed the patient by the lancet or by leeches according to circumstances.

Sometimes the patient is very much depressed, and requires the treatment which I have recommended in the intermediate form of common congestive fever. A young gentleman, who was taken ill at school, was brought home, and when I saw him the extremities were cool, and the heat upon the surface of the trunk natural. He was heavy and confused in his head, and paused and pondered before he gave me an answer; as if he tried to recollect something, and his replies were not always satisfactory. I observed two or three spots on his face, and ten or a dozen on the trunk. The tongue was intensely red at the tip. I considered it a case of small-pox, and thought the patient would sink from congestion without any development of fever. The pulse was very labouring, just as if a weight were pressing on the heart, which was reacting and endeavouring to throw it off. I bled him a few ounces, and the pulse rose and rose till perfect excitement was developed, and a mild attack of distinct small-pox occurred. When a medical man inoculates a patient he chooses a healthy subject, and

selects a favourable period of the year. He keeps the patient on a spare bland diet, he surrounds him with a proper temperature, and regulates the bowels by mild aperients. As far as you can, pursue a similar plan when small-pox arises casually, and a similar result will be perceived. I would almost venture to say that ninety-nine cases out of a hundred would recover. Rhazes mentions a pearl syrup, a single drop of which will, according to his assertion, stop small-pox at once. This remedy not having been handed down to us, with others as employed by him, we must be contented to adopt the best means we can, and they are those which I have just pointed out.

When distinct small-pox takes place, give the patient a little thin gruel or arrow-root three times a day. Keep the surface moderately cool, but do not chill the patient; let him be lightly covered, but avoid a stream of cold air. Let the temperature of the room be from 56° to 60° ; let the room be freely ventilated, for a confined atmosphere will induce or aggravate the bronchial affection. Keep the skin clean, and if hot, sponge it with tepid water, or, what is better, dab it with pieces of rag dipped in tepid water, and dry it in the same way; or pour tepid water over the patient, and as before dry the skin by dabbing it with pieces of fine dry rag. Keep the patient's bowels gently open every day or every other day by some mild medicine. Be cautious about harsh purgatives which may induce inflammation, and so also may saline mixtures and antimony. I am very much afraid of antimonial medicines, because I have so frequently seen them create inflammation of the mucous membrane of the stomach and bowels. I am perfectly satisfied from experience that they are a very common occasion of that state, especially in children. Do not interfere too much in this stage, and there is no danger.

If any secondary fever arise it will generally be removed by aperient medicines. If there be inflammation, or a threatening of it, bleed till you remove it entirely, or its precursory signs.

TREATMENT OF INFLAMMATORY CONFLUENT SMALL-POX.

Confluent small-pox is a highly inflammatory fever. I know no fever, except puerperal fever, which requires a more active form of treatment in the commencement. If you do not arrest the fever, the disease will be confluent; if you arrest it, the disease will be distinct. The external sign of small-pox is the eruption, the form of which rests generally upon your treatment adopted during the eruptive fever. If you look at the works of some authors you will find their treatment

of small-pox is external; hence arises this dreadful mortality. Only get rid of the circumstances precursory to small-pox, as I have mentioned, and this form of it will almost always give place to the distinct form. I am confident of this from my own observations and from the observations of my friends, Mr. Alcock and Mr. Charles Haden; for both they and I have used blood-letting in these cases with a most satisfactory result. No man, perhaps, has seen more of small-pox than Mr. Alcock, and his treatment of this fever is very successful. The truth is, that all the great authors of past times are in favour of bleeding in small-pox. Rhazes speaks of it highly. Sydenham, perhaps the greatest author in ancient times, in my estimation far beyond Hippocrates—for Hippocrates was enlightened by his ancestors, but Sydenham came to London and discovered the cheat; he found out the errors; and the consequence was that he was opposed, reviled, injured, and sent to a premature grave;—Sydenham, I say, is the author of almost all that has been done in physic; and he is distinctly in favour of bleeding. He used the lancet with great advantage in confluent small-pox, and saved almost all his patients, while almost all who were not so treated died; and for this he was branded as a dangerous innovator. Mead, a learned man and an honest man, though not a man of much talent,—for men of original minds never waste their time in perusing books of old times, they study the volume of nature,—he also speaks in favour of bleeding. Freind, a man of more vigorous intellect than Mead, speaks in favour of it. Huxham, a distinguished individual in his day, and perhaps to be ranked by us next to Sydenham, speaks very strongly in favour of it. None of these authors, however, have pointed out with sufficient distinctness the cases of confluent small-pox in which they have found bleeding so successful; but we may presume that it was in the eruptive fever, when there was inflammation. A very clever work has appeared lately upon the external pathology of small-pox, by Mr. Crosse, who says that almost every case of confluent small-pox was fatal. And do we wonder why? He bled them early, but seems to have been entirely in the dark as to the internal pathology. He never seems to have examined a body, but to have been satisfied by noting, like Cullen, the external appearances of the disease; and if men will do so, they may well be unsuccessful in the treatment of cases in which the internal structures are affected.

Almost all the patients die in confluent small-pox; and shall we still suffer it to become confluent? The American Indians even, when they fail, try a series of experiments instead of going on in the old way. We have proofs before us of one form of confluent small-pox being

most highly inflammatory. We have the evidence of symptoms, we have the evidence of the effects of remedies, and we have the evidence of the appearances upon dissection. Of what consequence to us are the opinions of men of past ages? We have nothing to do but to adhere to those opinions which are true, and to reject those which are false.

Bleeding may be beneficial or fatal in confluent small-pox, therefore precision in the application of this remedy is necessary. There is a stage which would be invariably fatal from bleeding. I only recommend blood-letting upon the common principle of lessening the violence of the fever and the local inflammation; after this has been accomplished you must be content to prescribe a very mild and very simple treatment. In that form which is ushered in and attended by open fever, with a high heat, and a pulse rapid and expanded and hard, or small and hard, something like whip-cord, treat the patient boldly and decisively by blood-letting. The fact is, that so long as the excitement continues, blood-letting is the main remedy, and the only remedy on which you can rely. There is the most intense inflammation occurring under circumstances the most favourable for blood-letting; but this state having passed away, bleed the patient, and you will destroy him. Select the proper time for it, and let your rule be to bleed till you subdue the inflammatory symptoms. Keep the skin cool by sponging it with tepid water. Give the patient a spare diet, and make use of aperient medicines. Calomel must not be given when the rash comes out.

On these measures you may rely in the highest excitement which ushers in and attends one form of confluent small-pox.

If you see a patient with a pulse fallen, the strength sunk, and the respiration laborious; if he be suffering from an accumulation of phlegm in the air-passages; the time is past for doing good by the lancet, and the patient has no chance of recovery but by a bland diet, fresh atmosphere, a regulated temperature, and moderate laxatives. At night, if the tongue be moist, an opiate may be given to allay the tickling cough, which is often very troublesome.

If secondary fever occur after this form of confluent small-pox, and arise from the bowels being out of order, a purgative will relieve it, and a spare diet should be adopted. If it be inflammatory, you must bleed according to circumstances.

Contrast this form of treatment with that which is usually adopted, and the difference is remarkable and important. Almost all the patients die in confluent small-pox under wine and bark; but under this treatment they almost all recover.

TREATMENT OF THE CONGESTO-INFLAMMATORY FORM.

As to this I scarcely know what to say about it; for under the masked form of confluent small-pox, do what you will I believe the patient will die in the majority of cases: by far the greater proportion have died under every plan of treatment. It is a most difficult subject. There is intense inflammation of the mucous membranes of the bronchia occurring in a delicate habit. You generally find the bronchia diseased; you often find the liver grey and diseased; and the mesenteric glands often diseased. Here you have generally a skin cooler than natural, and sometimes the extremities are cold; a blue, dusky, or leaden lip; a leaden hue of countenance altogether; a weak respiration: and if the patient attempt to speak to you, he heaves and pants for breath; a feeble, fluttering pulse; a dry, furred tongue; and, lastly, the patient lies in a sunk position, like a dead weight in the bed. When you have this combination of symptoms from the onset, a cautious plan seems to me to be the best. I generally apply a few leeches about the fauces early, and watch the effects upon the pulse. If the pulse sink, you must stop the bleeding; if it rise and become full, the bleeding does good. The inflammation seems to spread by continuity; and this early application of leeches to the throat seems to prevent it spreading extensively. Another point is to give very mild aperients; and the next is the admission of fresh air. The clothes should be tucked under the chin, and care taken that the surface be not chilled. A patient having this form of the disease in a cellar has no chance of recovery if he remain there. I have seen a patient in a cellar in this form of small-pox removed to a garret, and the fever has been more fully developed, and the petechiæ have disappeared. If the heat be lower than natural, the best remedy is the hot bath. All the surface must be kept warm. When petechiæ appear, the acids are beneficial. Sydenham recommended the sulphuric acid; and others the nitric, and muriatic, and oxymuriatic acid. I have given them all a fair trial, with the exception of the oxymuriatic acid. I prefer the lemon-juice to all of them: the cautious use of it is attended by very great benefit. As far as I have tried the oxymuriatic acid it acts nearly the same as calomel; but my own experience is insufficient to enable me to speak decidedly upon the subject. Some time ago a gentleman told me that in a certain district in London many persons died, one after another (attached to a work-house), and the undertaker was constantly employed. After this they were treated mildly with muriatic acid, and the patients all got well.

The contrast was so striking that the undertaker became alarmed, and applied to know why his work had been taken from him. The oxymuriatic, the muriatic acids, and lemon-juice, seem to convey oxygen to the blood. I am inclined to think the oxymuriatic acid will be found a very valuable remedy if cautiously given. If acids do not produce watery stools and a red tongue, they are often extremely beneficial; but if they irritate the mucous membrane of the bowels they must be omitted. In advanced stages, when the skin is cold, the tongue moist, and the pulse fallen, with rattling in the throat, and difficulty of breathing, even though there is bronchial inflammation, you may give warm wine and water, or ammonia and camphor, with a chance of benefit. They enable the patient to expectorate the mucus accumulated in the bronchia, and thus admit fresh air to the blood in its passage through the lungs. They must, however, be given with great caution. If they quicken the pulse, if they heat the surface, and if they render the tongue dry, they are injurious. When the tongue is as dry as a stick, and does not when touched communicate any moisture to the finger, I have never seen stimulants of any benefit. If the surface is cold keep it moderately warm. According to the bills of mortality, nearly one thousand persons die annually of small-pox in London alone; this has been the average for the last twenty years. As the majority of these cases occur under the second form of confluent small-pox, is it not lamentable to see them treated with wine and bark? It shows how prejudice prevails, and how difficult it is to introduce truth. Since error, then, is so enduring, let it be our wish to maintain the truth, which must ultimately prevail, whatever difficulties may now oppose its establishment.

From what I have said I trust you will see the folly of treating confluent small-pox by the wine and bark system. In short, whatever form it assumes, patients treated upon that plan die in crowds: I have never known one recover; but if you follow the plan I have pointed out, you will not fail of treating small-pox more successfully than has generally been done.

Convalescence is an important period in small-pox: if the patient be exposed to cold then, inflammation is very apt to occur.

I saw a pupil of this school, Mr. Ralph, who died of small-pox. The disease was confluent: he was exposed to cold; inflammation came on: I saw him about four or five o'clock in the evening: he was seized that evening with pain in the chest. His friends gave me no notice of it till the afternoon of the next day, and I saw him as soon as possible,

but had the misfortune to find him then very nearly dying: he was bled, but this afforded him no relief, and he expired that night. On examination, the pleura pulmonalis, the pleura costalis, and both lungs were found to have been violently inflamed, and the inflammation had run a most rapid course.

If a fatal result of this kind occur, it commonly arises from cold; or consumption may arise from cold after it; or if consumption does not arise, the development of scrofula, under various forms, may be the consequence of the application of cold when the skin and mucous membranes are out of order. I saw a remarkable instance of this from the diet having been neglected. If the diet be improper at this period insidious chronic affections are very apt to arise. Either ill-conditioned inflammation may occur, or tubercles may be formed and developed when the strength is broken up in this way. The practitioner should be careful to attend to the diet himself; the physician has no opportunity of doing this. The intercourse between the physician and his patient is far too peculiar. I mostly, however, hint to the general practitioner the propriety of seeing his orders carried into effect. The return to the former habits should be very gradual, and the patient should be immersed twice or three times in a warm bath.

INOCULATION.

If ever you would inoculate a patient for the small-pox, which I would only recommend as a test of security after vaccination, if it be effective you may look for either the presence of a slight eruption from about the eighth or ninth day, or the formation of small pearly pustules having a circumscribed red areola around the inoculated part. Either of these is a good test. But as I am confident that vaccination is a perfect preventive in a large majority of cases, with only an exception now and then, we are bound to adopt the Jennerian practice rather than to practise inoculation. And since small-pox is a contagious disease, we should on this ground also be cautious about inoculating any person, because we cannot limit the effect of a single inoculation: I would not therefore advise you to inoculate any person who has not previously been vaccinated.

It is a curious circumstance that some individuals who have been exposed year after year do not take the disease. Adams observed that a nurse after thirty years' exposure took the small-pox. And when inoculation has been practised the patient is not secured from small-

pox, for it sometimes occurs twice. I saw a patient at Brixton with small-pox who had suffered from that affection at a former period. Dr. Thomson mentions several cases. We need not wonder then that small-pox occurs after vaccination.

VACCINATION.

The best plan is to practise a double mode of vaccination by making two punctures in one arm, not so near that the vesicles will run into each other, and at the end of the fourth or beginning of the fifth day making two similar punctures in the other arm; and if at the end of the ninth day from the first vaccination the second spots have the same appearance as the first, or rather if the last two vesicles be miniatures of the first two, you may conclude that the system is affected: because, if the second two spots assume an appearance in miniature in five days which the first two spots did in nine days, the inference is that some change has taken place in the system which has enabled the progress of the last to differ in time from that of the first. This is an extremely satisfactory plan. It requires a little more trouble, but this will not be an object when the advantages are considered. I think it is of importance to have one or two perfect vesicles. In small-pox after vaccination, the scars have been found to be of irregular shape or size, from having been disturbed.

Be cautious, as Dr. Jenner has recommended, not to vaccinate unless the skin be clear from any eruption: when you perceive any spots you should wait, for this is a very common source of failure in vaccination. Another source of failure is this:—a person brings a child to a dispensary, or to a private practitioner; punctures are made in the arms, and the person is told to call again at a certain time. This, however, is frequently neglected, and the person is satisfied that vaccination has been properly performed. Another cause is the careless way in which vaccination is performed from having been done repeatedly. When persons first sold goods in the streets of London, no doubt they said plainly and distinctly what they had to sell, but now their cries are so indistinct that we cannot understand them without an interpreter.

It is an interesting and important question whether the influence of vaccination continues through life or only for a definite period. Two individuals who were vaccinated in their infancy have recently been re-vaccinated: in one of them, twenty years of age, the vaccine disease

took its regular course ; on the other, aged seventeen years, the vaccination had no effect.

The preventive power of vaccination is so great that inoculation for small-pox has no claim to our notice, except as a test of the efficiency of vaccination. Why persons should have small-pox after vaccination is a problem to be solved after more minute observation ; but all medical philosophers, nay, all who take an interest in the welfare of their fellow-creatures, must admire the character and respect the memory of Jenner, the benefactor of mankind.

LECTURE XL.

PECULIAR FEVER.

ORIGIN, SYMPTOMS, PATHOLOGY, MORBID ANATOMY, DIAGNOSIS, TREATMENT, PROGNOSIS, AND PREVENTION, OF SCARLET FEVER, MEASLES, HOOPING-COUGH, AND EPIDEMIC CATARRH.

I SHALL in this lecture offer some observations on scarlet fever, measles, and hooping-cough. These three affections, like small-pox, all proceed from certain peculiar and specific contagions. The proofs of this are twofold, and seem to me very decisive. For example, if a child be taken to a house where small-pox, measles, hooping-cough, or scarlet fever, prevails, the probability is that the child will be effected by that particular disease which does there prevail. If this occurred in solitary instances it would not be decisive; but occurring as it does in numerous instances, it is decisive. I have seen patients labouring under scarlet fever, measles, or hooping-cough, visited by other persons, some of whom have been attacked by the disease. This you would say is no direct proof of contagion, for it might have arisen from some local taint of the atmosphere. But there is one very remarkable difference from typhus fever with respect to these affections; for if a second child thus affected be removed into a healthy family, in a fresh atmosphere, the disease will generally propagate itself; and thus you may have a series of cases arising out of each other. I have seen boys removed from school—one with scarlet fever, another with measles, another with hooping-cough, and another with small pox; and the disease has propagated itself from individual to individual: and if I met with a similar uniformity of facts with respect to typhus fever, I would believe it to be contagious; but till then I shall not believe it. These affections, then, do appear to arise from, or at all events propagate themselves by, contagion. We do not know whether contagion is generated *de novo* within us, or by a combination of circumstances without the body.

SCARLET FEVER.

The peculiar poison which occasions scarlet fever sometimes gives rise to congestive fever at first, so that life is overpowered at the onset. I have seen several individuals thus overwhelmed who were exposed to the contagion; but I have seen only one such case since I came to London. Upon the whole it is a rare form of this affection. A lady had an abortion on Thursday, and on Saturday she came into the drawing-room, and played at whist that evening; on Monday scarlet fever appeared, and her medical attendant was sent for, and thought it slight; the rash soon disappeared, and she was exceedingly oppressed; her medical man was sent for, and I was called in the same night. I saw her at about eleven o'clock, and found her dying; she was then without any pain, and was obviously dying of congestion about the bronchial linings, about the lungs, and about the head. I gave a fatal prognosis, and she died in a few hours. This case differs in nothing from congestive fever proceeding from a common occasion, and requires the same treatment. If the means which I have mentioned be not used, this sometimes destroys life in three or four hours, and generally in the first twenty-four hours, in the extreme forms. All the specific contagions operate in the first instance as depressing agents, diminishing the heart's action, the animal heat, and the muscular strength through their primary operation, and producing a cold stage. This stage, however, generally passes away, and is succeeded by a hot stage, in which the peculiar character of the disease becomes evinced. Sometimes the specific contagions act in the first instance as direct and universal stimulants, increasing the heart's action and the animal heat. In a large majority of cases scarlet fever commences with a cold stage; but sometimes no cold stage can be made out, and it commences at once with a hot stage. The contagion of scarlet fever operates more speedily than any other contagion. Many individuals have been affected with scarlet fever about four days after exposure to the contagion, sometimes earlier; and it generally appears within the first week after the exposure. The patient complains of languor and lassitude, of aching and uneasiness about the head, and of uneasiness about the back and extremities; the face and surface are pale, and the pulse more feeble than natural, and the appetite is prostrate or capricious. In short the precursory symptoms of scarlet fever are those which usher in fever in general. The throat should be examined, for the patient complains in many cases either of soreness of the throat, or of stiffness about the

neck; after these precursory symptoms a rash appears at an uncertain period. The efflorescence generally comes out very rapidly, in many cases in twenty-four hours from the commencement of the precursory symptoms, sometimes it is longer, as forty-eight hours. Some writers assert that it comes out on the fourth day after the accession of the fever; but it mostly occurs in the first three days, and seldom longer than forty-eight hours from the appearance of the fever.

When the skin becomes hot, and the pulse quick, the fever is then either simple or inflammatory. Hence Sydenham, who was a true observer of nature, has described a simple form of the affection, coming without any sign of internal or external inflammation, which he terms *scarlatina simplex*.

SYMPTOMS OF SIMPLE SCARLET FEVER.

Till my residence in London I never saw a case of scarlet fever that was not inflammatory, and for a long time I doubted the affection ever being simple, but I am convinced that Sydenham's account is correct. Fourteen patients (I believe all of them from the Freemasons' School) were brought into the Fever Hospital. Twelve of them had scarlet fever in the simple form, neither the throat nor any other part being inflamed; and two had inflammatory fever, one very seriously: the twelve all recovered speedily under a spare diet, and the use of mild aperients.

The efflorescence of scarlet fever varies very much in its duration, depending on the fever. If the fever be short, the duration of the rash is short; and if the fever be protracted, the duration of the rash will also be protracted; if likewise the fever after having disappeared be reproduced, the rash also will be reproduced. For instance, if it be receding, and a physician be called in, it will return from the influence of the mental impression. I have known it reappear without fever. It is generally followed by a slight disorganization of the cuticle, especially when the rash continues some time; but sometimes there is none at all. In mild forms it generally disappears in four or five days; in protracted cases, in seven or eight days; and I have seen cases where it has remained fourteen days. The best idea I can give you of the appearance of the skin in scarlet fever is, that it is somewhat like the shell of a boiled lobster. It is generally of a brighter colour when the fever is fully developed than before. It is a redness composed of very small points, which are the red and raised papillæ of the skin, with broad blushes or flashes spreading, especially in delicate habits, over

the whole surface. It is a redness commencing from a centre, and diffused over a large portion of the skin, and the redness runs into other patches. The rash generally appears especially about the joints, and is reddest and most distinct over those parts which are kept covered by the bed-clothes ; so that if one arm were wrapped in flannel it would be more covered by the eruption, and nearly as red as scarlet, while the other arm which had laid exposed external to the bed-clothes, would be found to be nearly natural in appearance, with a faint rash. And so with the throat : I have ordered leeches to the throat, and then a poultice, and the throat has become very red from the accumulation of caloric.

Simple scarlet fever can only occur in a sound subject ; for if any part be predisposed it will become inflamed.

SYMPTOMS OF INFLAMMATORY SCARLET FEVER.

This is by far the most common form of scarlet fever. It has had various names ; but it is nothing further than inflammatory fever arising from a peculiar occasion. All the specific contagions operate remarkably upon the mucous membranes. Sudden epidemic states of the atmosphere, as those which produce influenza, and the contagion of the small-pox, and malaria, which are other peculiar occasions, operate remarkably on the mucous membranes. The contagion of scarlet fever operates in like manner ; hence the throat is the part generally first inflamed ; though if the person have predisposed parts, they will become inflamed even before the throat. What is called by writers scarlatina anginosa, I would call inflammatory scarlet fever ; it occurs in strong subjects, and is ushered in by a hot skin and quick pulse for many days. You have inflammation of the throat, and a red rash on the skin, combined with ardent fever, an intensely hot and dry skin, a moist tongue, a very rapid pulse, either full and expanded, or small, hard, and contracted, and the patient displays considerable strength in moving. This fever generally runs on for many days, if not moderated, and the throat becomes inflamed early. Sometimes in the onset even there is stiffness about the throat, and inflammation or ulceration of the tonsils before the fever is fully developed. This is the common character of inflammatory scarlet fever. The inflammation at its commencement has all the characters of common cynanche tonsillaris. The tonsils are swelled, and sometimes have white patches and stripes of coagulable lymph deposited upon them. These supposed ulcers it is very important to distinguish from sloughs, of which they have the ap-

pearance ; but they may be washed off with any gargle, and they are raised about the surface of the mucous membrane ; while a slough implies a loss of substance. If scarlatina occur in a weak subject, sloughs generally occur in or about the tonsils, obvious to the sight, and covered with a grey substance. This is still nothing but inflammatory scarlet fever ; though some writers have chosen to call it, when in aggravated degree, scarlatina maligna. It very often happens when sloughs form about the throat early, the linings of the air-passages become more intensely inflamed than ordinary ; and, instead of the vividly red efflorescence, you have a copper-coloured efflorescence, which is very remarkable, and the cause of which is obvious. It depends on the interruption to a vital change which takes place in a healthy state in the blood in its passage through the lungs. There is nothing, however, extraordinary in this ; you see the same thing occurring in what has been vaguely termed erysipelas. You have an open or a masked form of inflammatory scarlet fever, and this open inflammatory form, if allowed to go on, very frequently ends in the—

SYMPTOMS OF CONGESTO-INFLAMMATORY SCARLET FEVER,

under which form the inflammation of the throat goes on many days, the bronchial affection increases, and at length it affects the strong subject in the same way that the weak subject is affected in the beginning ; and when this occurs in weak subjects, it arises from the intense inflammation, in which you have sloughs forming. Here you have ulceration of the throat, with the heat on the surface of the trunk but little above the natural standard ; the extremities generally cool ; the pulse quick, feeble, soft, and yielding to pressure ; a weak respiration ; a coppery hue on the surface ; the tongue glazed and dry ; the teeth often crusted with sordes, especially if the apartment be not well ventilated ; and extreme prostration of strength. In all specific fevers in the advanced stages, you have the special bronchial affection, which is one of the main characteristics of typhus fever ; yet these never propagate typhus fever.

What happens in the inflammatory fever in five, six, seven, or eight days, sometimes happens in the onset. Sometimes the occasion of this masked form of fever is the air which the patient breathes ; hence it is very common in cellars and close stifling apartments. Sometimes it depends upon the constitution of the individual, as in the tabid children in London, whose mucous membranes often become most intensely and rapidly inflamed. Sometimes it arises from defective ventilation, so that the apartment becomes too hot.

All these forms you will occasionally find occurring in the same family, and if you investigate the cases you may generally refer the varieties to these circumstances. If the child be strong, it may have the simple form of fever ; but more commonly you have inflammation about the throat, with a very hot skin, and a very quick pulse. If a child attacked be very delicate, it often puts on the character of what has been called scarlatina maligna, or cynanche maligna.

Cynanche maligna was once thought to be a different affection from scarlatina maligna, but no doubt it is the same affection.

In individuals who have had scarlet fever before, it is common during an epidemic to find them with only a sore throat, with no fever ; sometimes with a very aggravated sore throat, but no rash at all. This should be particularly remembered, as it requires the same treatment as scarlet fever.

MORBID ANATOMY OF SCARLET FEVER.

In fatal cases of scarlet fever you almost invariably find proofs of inflammation of the fauces extending down the larynx, trachea, and bronchia. In nine cases out of ten the air-passages are inflamed. Now and then other parts of the body are inflamed ; for example, very frequently the brain ; in other cases the mucous membrane of the bowels is the seat of inflammation ; and sometimes the liver is inflamed. I would say that the throat and air-passages stand first on the list of inflammations ; and next the brain and the bowels, which seem to be affected on the common principle of excitement. The pulse in scarlet fever often ranges from a hundred and twenty to a hundred and forty in a minute ; it cannot, therefore, be a subject of surprise, that a pre-disposed part should become inflamed. The treatment turns mainly on this point. And the smothered or subdued form may be considered, as it really is, a congesto-inflammatory form of fever : the lungs become gorged, a copious quantity of mucous is poured out from the lining of the air-passages ; the respiration becomes more and more interrupted ; and life is suspended by suffocation.

In the progress of scarlet fever it sometimes happens that the glands of the neck become enlarged. Sometimes the inflammation spreads along the Eustachian tube, and the patient becomes deaf.

Occasionally in the progress of scarlet fever an affection occurs precisely resembling rheumatism in its symptoms and pathology, and in its course inflammation of the pericardium sometimes occurs, the inflammation then leaving the part originally attacked.

In scarlet fever the tongue is generally red at the tip and edges, for

the same reason that the skin is red. The skin is in the condition of local simple excitement. Sometimes the efflorescence goes down the whole mucous membrane of the alimentary canal ; hence the red tipped tongue does not always denote inflammation of the mucous membrane of the bowels. In some cases of scarlet fever the conjunctival vessels carry red blood, not from inflammation, but from local simple excitement. Yet if the cases be badly managed, this state frequently passes on to actual inflammation of the mucous membrane of the alimentary canal.

THE TREATMENT OF SCARLET FEVER

is very simple, and remarkably satisfactory from its great success. A century ago scarlet fever was the scourge of England. Dr. Fothergill wrote a book on scarlet fever in a popular form, on which account he became one of the most celebrated practitioners in London. Dr. Withering says that Dr. Fothergill lived, however, to be convinced that his whole book was a tissue of errors ; and yet he never had the manliness to acknowledge it. When a man commits an error which is capable of affecting the comfort, the health, and the life even of his fellow-creatures, he should, when he is convinced of his error, show the independence and greatness of his mind by confessing it ; he should not merely mention it to a few individuals ; he should not speak of it merely in a corner ; but he should acknowledge it before the whole world. This, therefore, if true, with regard to Dr. Fothergill, is in my opinion the greatest stain that was ever left on the memory of any medical man.

TREATMENT OF SIMPLE SCARLET FEVER.

Open the bowels regularly every day with some mild aperient medicine, such as senna or castor oil. Keep the patient at rest between cool clean sheets, in bed or on a mattress, with light clothing, in a regulated temperature from 56° to 60° Fahr. ; sponge the surface with tepid water twice or three times a-day while it is hotter than natural, especially when it is hot towards evening ; admit plenty of fresh air, allow a bland diet, and in two or three days the patient will be well. It is of the greatest consequence that the diet should be strictly spare ; for instance, a small cupful of arrow-root thrice in the day, and toast and water for common drink.

From sudden exposure to cold after the subsidence of scarlet fever,

or from cramming too early, or from neglect of the bowels, or from over-exertion, the patient is very apt to have dropsy.

TREATMENT OF INFLAMMATORY SCARLET FEVER.

When it assumes an open inflammatory form of fever, prompt evacuations may be used. You will most frequently find inflammation limited about the fauces, tonsils, and adjacent mucous membranes, extending slightly down the air-passages. Generally you will find it sufficient to apply eight, ten, or twelve leeches to the throat if the patient be an adult, provided you see him early. Give three to five grains of calomel, with ten or twelve of rhubarb, followed up by an ounce of cold-drawn castor oil, or a draught composed of a drachm of manna, a drachm of sulphate of magnesia, and an ounce and half of infusion of senna. If the inflammation of the throat be not lessened so much as you expect, re-apply the leeches: they mostly require to be repeated once or twice.

If the heat be high, pour tepid water on the patient. Have a common washing-tub, and put a little warm water in the bottom of it, to cover the patient's feet. Place a three-legged stool in it, and upon this let the patient sit naked. Then have two jugs, each containing two gallons of water, of the temperature of 96° Fahr. Let them in succession be poured on the patient's shoulders. After each let the patient remain a few minutes, that evaporation may take place. Then dry the skin thoroughly, and lay the patient in clean and well-aired sheets. This process may be renewed as often as the heat becomes high. Keep the patient at rest in bed, and perfectly quiet, in a regulated temperature. Continue the purgatives daily; allow a spare diet; and the patient will do well. I have seen several hundred cases of scarlet fever since I came to London, and only two have died, with the exception of that which I have already mentioned as fatal in the congestive form; and another to which I was called very late, and which the practitioner told me was typhus fever, but it was the masked form of scarlet fever. It is best to use the affusion first, and then apply leeches, and give aperients directly. Apply the leeches early, and you will generally prevent the inflammation spreading more down the larynx. Free ventilation should be observed. It may happen that in other parts of the body beside the throat there is inflammation; for instance, in the bowels or in the brain; and then bleeding from the arm is sometimes necessary. If the inflammation be acute, bleed decisively; if sub-acute, bleed moderately. I have done this repeatedly in the Fever Hospital with great benefit in these cases. When the mucous membrane of the

bowels is inflamed, you will generally succeed best with the daily application of leeches until the pain is removed.

TREATMENT OF CONGESTO-INFLAMMATORY SCARLET FEVER.

Be extremely careful about the abstraction of blood. I generally order leeches to the throat in the first instance, if I see the patient early; and if the pulse rise under the application of the leeches I let the orifices bleed a moderate time, and often repeat them with benefit; if the pulse sink, I staunch the bleeding orifices, or leave some proper person to do so, and I do not apply them again. Moderate leeching to the throat is generally very beneficial in this form, but I never apply above four at one time. A tepid bath, or, rather, a bath of from 98° to 100° Fahr. (not lower than 98°), is exceedingly useful. Put a considerable quantity of salt in the water; put the patient in the bath for fifteen minutes; and when you take him out, lay him between warm blankets. By far the best cordial is a sufficient supply of fresh air.

Cold affusions have been recommended by Dr. Currie. When the skin is preternaturally hot, when it is perfectly dry, and the patient is not sensible to the influence of cold air, they are very beneficial; but I never use them, because I can subdue scarlet fever without them. If not used under proper circumstances, they are exceedingly dangerous. If they were used in the masked form of fever, I believe the patient would die under the application: hence the propriety of attending to first principles. A friend of mine who had read Dr. Currie's reports, applied cold affusions in this form of the fever, and the patient died under the shock. Equalize the animal heat, and bring the blood to the surface, either by the warm bath, or by laying the patient in blankets and applying bottles of hot water to the feet and stomach. Mild aperients are of great benefit. Give the patient a grain or a grain and half of calomel, with six or eight grains of rhubarb in the day, followed by a drachm of castor oil. Allow him lemon-juice in the common drink, and give him a diet of arrow-root and lemon-juice, with absolute rest and quietude. A remedy which will probably be found very beneficial in this form of the affection is the oxymuriatic acid. I tried all the acids with the exception of this, and my observations were in favour of very good lemon-juice in water. But lemon-juice is often too expensive, and by some classes cannot readily be procured; and I think the oxymuriatic acid will be found equally useful in those forms of fever attended with intense bronchial affections. It often has an extremely good effect in typhus fever, in sustaining the strength. It

emulges the liver, and produces healthy evacuations; and perhaps there is a great similarity between its effects and those of calomel. From half a drachm to a drachm may be given to an adult in twenty-four hours. Put a drachm of the acid into six ounces of water, and let him take two table-spoonfuls every four hours. When it does not open the bowels castor oil may be given. During the progress of both the ardent and masked forms of scarlet fever with sore throat, the best gargle is the infusum rosæ compositum of the London Pharmacopœia, to which a little syrup may be added if it be too acrimonious to the fauces. Acid gargles sometimes seem to be of benefit by promoting and increasing the secretion of the throat when there is no ulceration. A gargle of lemon-juice or muriatic acid answers very well. Gargles in this affection are certainly very beneficial; though I believe they do very little good except when there is ulceration of the throat. A friend of mine is in the habit of using a gargle of Cayenne pepper, vinegar, and salt, and, he says, with great advantage.

Towards the close a gentle stimulus is necessary, as carbonate of ammonia. In some cases wine is beneficial: when the skin becomes more and more cool; the pulse more and more feeble; the respiration more and more weak; the position more and more sunk. But always watch its effects: if it render the skin hot, it does harm; if comfortably warm, it does good; if the pulse become more rapid, it does harm; if slower, it does good; if the respiration become quicker, it does harm; if slower, it does good; if the tongue become drier, it does harm; if more moist, it does good; if the patient become restless, it does harm; if it procure sleep, it does good. Give it by tea-spoonfuls at first; or you may give a wine-glassful, frequently, of whey made with one or two glasses of sherry to a pint of milk.

I have not seen more than one case of scarlet fever in two hundred fatal since I have adopted this treatment. I had but two patients who died of it in the Fever Hospital. My colleague had four fatal cases. Two of his and one of my cases occurred under the masked form.

If you attend to scarlet fever early you will seldom have any affection of the ears, which very usually occurred in the old treatment of scarlet fever. When there is pain in the ear, leeches behind the external ear, or the abstraction of blood from the throat or from the arm are generally necessary. When suppuration occurs the ear should be syringed daily with tepid water.

Dropsy is very apt to occur after scarlet fever where patients are not well managed: indeed I have seen this so frequently occur that I once thought it was a necessary consequence of scarlet fever, and it is set down by most writers as a part of scarlet fever: but since I have been

attentive to patients and made them adopt proper regulations during the state of convalescence (though I have seen some hundreds of cases), I have never had but one case of dropsy after scarlet fever, and that occurred in the child of a medical man from cramming. Cold is one occasion which often produces it. The patient should be kept moderately warm, and should be confined within the house till his strength is improved. Attend to the skin; you will find it dry and husky and the cuticle peeling off; and then immerse the patient occasionally in a tepid bath and keep him there twenty minutes or half an hour, so that the skin is completely soaked; then soap the skin all over, and, having washed this all off, dry the surface thoroughly: this puts the skin in a healthy condition. If the weather be cold, the patient should wear flannel, and be kept within the house for some time. Restore the strength by passing gradually from a spare to a full diet, and avoid the use of tonic or stimulant medicines. Attention to the diet is a point of very great importance after scarlet fever. A very fine boy was admitted into the Fever Hospital with scarlet fever, from which he was convalescent. I allowed nothing to be brought into the Fever Hospital except tea and sugar. The boy's father, however, brought with him an apple, which the boy ate, and which I believe killed him. He had intense inflammation of the mucous membrane of the stomach and of the intestinal canal, and sunk with great rapidity.

Scarlet fever, then, is a disease which has been most successfully treated in modern times. Formerly it was very fatal, and I am confident that the mortality arose from bad treatment.

SYMPTOMS OF MEASLES.

Measles may occur at any time from three days to three weeks after exposure to its specific contagion. The most common time of the appearance of the rash is from seven to fourteen days after the exposure. In one family I saw four children who were all attacked seven days after the exposure; and this is by no means an uncommon occurrence. I attended another family in which it occurred in one case on the fourth; in another, on the sixth; in a third, on the seventh; in a fourth, on the ninth; and in the fifth, on the fourteenth day after exposure. One of these had no catarrhal symptoms, but went to bed well, and awoke in the morning with the rash. It is preceded almost always by catarrhal symptoms; by a watery eye, which is rather redder than natural; by a slight running of the nose, with occasional sneezing; and by some degree of rather a hoarse cough; in short, by the common

symptoms of what is popularly called a cold. These symptoms usually go on from three to five days or longer before the eruption of measles comes out. The patient often complains of sudden chills, of languor and lassitude, and of pain or heaviness in the head.

It sometimes happens that the catarrhal symptoms are absent. I saw four children in Holborn with measles, of whom the youngest, an infant, had no catarrhal symptoms. I saw the same thing in a school last year; several boys had no catarrhal symptoms.

Sometimes inflammation exists before the rash comes out, and if you were not attentive to it the patient might die before the rash appeared. I have seen this inflammation seated about the mucous membrane of the trachea, having precisely the character of croup. I have seen it in the brain, in the liver, in the peritoneum. I was called to see a boy who was threatened with hydrocephalus internus, as it is called. He had inflammation of the brain, which I removed by prompt measures, and then the eruption of measles came out. The mother of the boy thought I had mistaken the case. Ignorant persons suppose medical men to know more than they do, or than they ever will know. Any man that is disposed to entertain romantic ideas of human nature should be united with the middle class of men; but the similarity between the highest and lowest classes is most conspicuous for thorough selfishness. Talents and virtue arise more particularly in the middle classes; and this will be the case till the education both of the higher and lower classes of society is better than it now is.

The rash of measles generally comes out first about the neck, then about the chin and face, &c.; the eyes become affected and swollen; and then it comes out also about other parts of the body. It consists of small red points or tumours, about the size of a millet seed, which give the skin a rough feel, so that it may be known in the dark by running a finger over it. These points are distinct, and scattered separately in every direction. The rash of measles is rather more dusky than the eruption of scarlet fever, because the bronchial linings generally suffer more in measles than in scarlet fever.

The eruption of measles continues out during various periods; its duration depends upon that of the fever. Sometimes it lasts one, two, or three days, mostly about four days, and then it disappears generally; but where the fever is protracted, I have known the rash remain out several days longer.

PATHOLOGY OF MEASLES.

The fever which attends measles is the same which attends scarlet fever and small-pox; when it attacks a healthy person, the fever is simple; more commonly it is inflammatory: and generally an open, but sometimes a masked form of inflammatory fever. It may be ardent and open at first, and yet in a few days it may change to a low or smothered form of fever. In the Medical Observations and Inquiries is an account of this by Sir W. Watson, which Dr. Willan has noticed in his book, but of which he completely mistook the pathology. He supposed that scarlet fever had been mistaken for measles.

Measles in the country is scarcely ever fatal in healthy children. A strong child has a hot skin, a quick pulse, the catarrhal symptoms, and the cough.

Sometimes the cough occurs as a distinct attack before the eruption comes out; and active inflammation about the larynx and trachea occurs sometimes before the rash comes out, and this should be remembered. In strong children, generally, you have inflammation spreading down the mucous membranes of the air-passages; sometimes the brain is inflamed; and you should pay strict attention to its functions whenever the air-passages are inflamed, for it is very apt to be inflamed in all specific affections. Sometimes the mucous membrane of the bowels is inflamed; but recollect the precaution I mentioned when speaking of scarlet fever, that simple redness of the tongue is no criterion of muco-gastritis, or muco-enteritis, because it is only a continuation of the rash modified by the structure of the part. Frequently there is inflammation of the substance of the lungs, or congestion of the lungs, which generally attends special bronchitis, and a portion of lung when cut into will sink in water. In weak children you have the masked form of fever, which is mostly fatal, and on examination after death you almost always find some organic disease. You often find the liver grey and granulated, the lungs studded with tubercles, the bronchial and mesenteric glands diseased; the child is, in fact, the subject of disease before this affection comes on. The inflammation of the lining of the air-passages is very intense.

In some of these cases the child becomes gradually hectic and consumptive. After measles, small-pox, and scarlet fever, if patients be not well managed, they are very apt to become consumptive.

DIAGNOSIS OF MEASLES FROM SCARLET FEVER.

By attending to the following facts you will have no difficulty in distinguishing these affections.

1. In scarlet fever you have no precursory catarrhal symptoms, but they generally do occur before the rash of measles makes its appearance.

2. In scarlet fever the mucous membrane of the fauces is inflamed as well as the tonsils, but it is one uniform blush of inflammation; and generally, but not always, there is an ulcer or slough upon the tonsil. In measles there is a dotted appearance on the mucous membrane of the fauces in a diffused blush of inflammation, from the eruption occurring in an inflamed part.

3. The eruption of scarlet fever is diffused like a sort of blush, and smooth. In measles the eruption is dotted, in small points, like millet seeds in size.

4. In scarlet fever the colour is brighter, as well as the eruption more diffused over the whole skin, except when it puts on a masked character. In measles there is generally more bronchial affection, and hence the eruption is generally darker than in scarlet fever.

THE TREATMENT OF MEASLES

is simple. It sometimes appears almost as a simple form of fever, the inflammation being so slight as hardly to deserve the name. When the patient has little or no fever, keep him in a regulated temperature, let the diet be very bland, keep the bowels gently open with cold-drawn castor oil or some other mild aperient every second day, and the patient will generally be well in two or three days. He generally would run about, but it is best to keep him at rest. Patients with this form invariably do well; some old women manage it with great success.

If measles be inflammatory treat it accordingly, considering whether it is open or masked. If it be ardent, generally there is inflammation of the throat and air-passages, and if the symptoms of that condition be distinct you may bleed the patient, largely or moderately according to the degree of inflammation, to diminish the excitement and lessen or remove the local inflammation. If the local inflammation be in the brain, you may remove it at once; but not if it be in the bronchial lining, for then it has a determinate duration, and can only be moderated. Adopt a bland diet, keep the bowels open, and be sure to regulate the

temperature, avoiding a high degree of heat, which will stimulate the heart, and a low degree of temperature, lest you chill the patient; from 60° to 66° Fahr. is the best temperature. I have seen restlessness and other bad symptoms arising from bad management, from a high temperature and defective ventilation, from having a fire and admitting too much light into the room. You must just be guided by the principles I have laid down in common fever, excepting that the bronchial affection has in these specific diseases a determinate duration.

When the fever is masked use a tepid bath, in order to bring a flow of blood and heat to the surface; apply leeches to the throat and to the head if necessary; put the patient into a fresh atmosphere; regulate the diet; and keep the bowels gently open. Cases which occur in tainted children will generally be fatal. Some medical men have used cold affusions in measles; I have never seen any necessity for them, and when repeatedly used they often do a great deal of mischief. For if the skin be hot and moist, there is great danger in using cold affusions; but they might be tried if the skin were hot and dry, without any bronchial affection. In the year 1808 cold affusions were used at Plymouth with great success. Sponging the surface with tepid water, or tepid affusions, I have often tried, and have frequently found them have all the good effects of blood-letting.

When the rash suddenly goes in it is generally connected with a bronchial affection, which often continues after the rash disappears. If the skin be cold, use a tepid salt-water bath. Sometimes it goes on without any uncommon circumstance, and then it is of no consequence.

Great care should be taken in a state of convalescence, as after scarlet fever. Keep the patient within doors until the bronchial affection has subsided; let him occasionally use a tepid bath, the skin being well soaped; avoiding chills and excitement.

HOOPING-COUGH,

or pertussis, I believe arises from peculiar contagion. A friend of mine saw a dog lap up some bread and milk which had been vomited by a child under hooping-cough, and the dog distinctly had hooping-cough. Another friend of mine saw a woman who suckled two children, one of which had hooping-cough; she was accustomed to wash the breast before she applied the healthy child, which for some time was not attacked by hooping-cough, but she forgot it one day, and this child was affected. I have seen children from school bring it into families where they resided. It is at present disputed whether it is contagious or in-

fectious : It is supposed by some physicians to arise from an infection or local taint of air. I think that it is contagious, and not infectious. The reason that convinces me of its contagiousness is, that I have seen several children from school propagate the affection in families to which they have come home. I attended a child of a very sanguine man ; in its first attack it had measles, with pneumonia, bronchitis, and muco-enteritis. Having unexpectedly recovered, it had a similar inflammation entirely from cold, and again recovered. I happened to visit a child at a short distance in the country with whooping-cough, and this child was there ; I told its father it was so predisposed, that if it had whooping-cough it would sink very rapidly, and that I would advise them to remove it immediately. He allowed it to remain ; it had whooping-cough ; and as I had predicted, died of inflammation of the brain, of the bronchial lining, and of the lining membrane of the intestines.

SYMPTOMS OF HOOPING-COUGH.

Whooping-cough very often comes on like catarrh, except the running of the nose, which seldom occurs in whooping-cough. It is frequently preceded for some time by a cough, which goes on one, two, or three weeks ; the patient often coughs long before the disease shows the peculiar symptoms which designate whooping-cough. At length comes on the "hoop" which characterizes this affection. A patient about to be seized with the hoop has a dread of it, and suddenly lays hold of a chair to prevent himself from falling. The child is suddenly seized while at play, for instance, with a remarkably strange sensation about the larynx, and then he makes several short rapid expirations one after another, and finally takes a very deep inspiration, during which there is a peculiar noise in the larynx, probably from specific affection of the membrane of the larynx connected with slight inflammation there, and there seems to be a secretion of mucus about the larynx. The eyes are turgid and frequently red during the cough, and there is a suffocated expression about the face. The paroxysm of coughing is generally terminated very suddenly by vomiting, or by expectoration of a large quantity of mucus or, in protracted cases, of pus, by which the patient is relieved. Pus is sometimes secreted in large quantities from the trachea without any lesion. After this he is well for a little time, and then the paroxysm returns.

PROGNOSIS OF HOOPING-COUGH.

The question in whooping-cough is this ; has the child any permanent

fever, and permanent difficulty of breathing? If there be, great care is necessary, and the danger is very considerable. In many examples there is little or no fever or dyspnœa: and the child after each attack would run about, and eat and drink in the ordinary way. This is a most important distinction.

Hooping-cough has a sort of determinate duration. Some medical men say they can stop it, but I have never seen it cured directly. It generally occurs in the autumn and spring: if the spring be mild, it generally terminates in six weeks or two months; in autumn, when the weather is cold, it is more protracted, unless the patient lives in an artificial climate, and then you may usually get rid of it in six or eight weeks. The hooping-cough affects the mucous membranes particularly; therefore it is very dangerous in weak children. Very frequently children die in consequence of hooping-cough, particularly in London.

PATHOLOGY OF HOOPING-COUGH.

The poison which produces hooping-cough operates specifically on the larynx. I never saw a case where there was not inflammation about the larynx, either recent or of long standing; the inflammation generally extends down the trachea, and down the bronchial passages. In the progress of hooping-cough, when the respiration is much affected, the head is very apt to be affected, and the membranes of the brain become inflamed, and in many cases the lining membrane of the bowels is inflamed. The affection of the head is generally secondary to that of the air-passages or bowels; and this is often the case in other affections. It is important in all cases to trace the history backward, so as to take into account the state which preceded the disorganization. Infants very often die suddenly after the cough, from an apoplectic state of the brain. Sometimes a child apparently dies under convulsions; yet if you trace the history of the case backward, you will generally find that the mucous membrane of the air-passages or of the bowels was inflamed previously. Even when hooping-cough occurs with a mild character and a very slight degree of hooping, do not allow the child to go out of the house in cold or damp weather; but if the weather be fine it may go about as usual. If it contract a cold, the disease often becomes extremely violent. A medical man had three children labouring under mild hooping-cough; they went out in cold weather, and all became

object to prevent it from spreading, and you must entirely cut off, if possible, the communication between the sick and healthy. If you attend a school, for instance, the patients should be separated from the other children at once; and the same in a private house.

2. Another point is to dilute the poison to the utmost by free ventilation, bearing in mind not to expose the patient to currents of air.

3. Another point is to attend to the linen: both that which the patient wears, and the bed-linen, should be put into cold water before being sent to be washed.

4. Small-pox, scarlet fever, and measles, frequently propagate themselves by minute portions brushed from the skin and diffused in the atmosphere: hence after these affections a warm bath is of great benefit; and after the skin is quite free from scurf, you may allow the patient to hold intercourse with the family.

5. It is very important to consider the constitutions of children, and if any of these contagious affections occur, and the other children be delicate with a faded skin, you should separate them; for in these cases, small-pox and measles especially are exceedingly fatal, and scarlet fever is mostly severe.

EPIDEMIC CATARRH

is generally called influenza. One occurred last winter, and I saw no patient who required blood-letting. Bronchial affection was very common. An occasional tepid bath, a bland diet, rest, a regulated temperature, and the bowels being kept moderately open, generally remove it. Influenza requires great care as to blood-letting: there is remarkable feebleness of the whole muscular fibre of the body; though it is inflammatory, it is attended with great prostration of strength. It consists of inflammation of the mucous membrane of the air-passages, but more intense than in common catarrh. Bleed largely, and the patient sinks; and in these cases you seldom find any buff on the blood. After the subsidence of epidemic catarrh, do not let the patient go out directly. Patients are very frequently dying from chronic organic affections occurring after acute and sub-acute diseases: this is especially the case after catarrhal complaints. I have seen many medical men lose their lives in this way. The late Dr. Baillie contracted the epidemic of the winter of 1823; anxious to do as much good as possible, he went about as long as he could. The last time I saw him he had chronic inflammation of the mucous membrane of the trachea, larynx

and bronchia, and irritation about the small intestines. Whatever was the opinion of the medical talents and acquirements of Dr. Baillie, all medical men are agreed as to the excellence of his moral character, and to him may be applied the words inscribed on the tomb of a distinguished foreigner,—

TÁNTO NOMINI NULLUM PAR ELOGIUM!

LECTURE XLI.

PECULIAR FEVER.

PREDISPOSING AND REMOTE OCCASIONS, PATHOLOGY, SYMPTOMS, DIAGNOSIS, MORBID ANATOMY, AND TREATMENT, OF FEVER IN THE PUERPERAL STATE.—GENERAL MANAGEMENT OF FEBRILE AFFECTIONS.—TREATMENT OF CONVALESCENCE.

I SHALL in this lecture offer some observations upon the nature and treatment of what has been so loosely called puerperal, or child-bed fever.

An author once wrote a very large volume upon a subject upon which I am going to deliver a very long lecture,—nothing; for, strictly speaking, there is no such thing as puerperal fever; no such thing I mean as a fever *sui generis* occurring in that state. Here let me again urge you never to allow any person to think for you, but always reflect for yourselves. By thinking for ourselves, we throw off the burden of the errors of past, of ignorant, of dark ages; we breathe the pure air and walk in the cloudless light of science. The subject surely is not, as it has been pretended by systematic writers, complicated, but exceedingly simple; for, as I trust I have satisfactorily shown, all the various symptoms of disease are referrible to a few pathological principles. Modern medicine does not rest upon airy nothing; it is not a flimsy fabric which has no foundation, but it rests upon substantial facts; its foundation is not upon sounding and empty names, but upon solid things, on conditions which are tangible or perceptible; and if a man will only trouble himself to collect facts, to collect symptoms, and to make careful dissections, he will find that all forms of fever may be referred to the principles which I have mentioned. With regard to states of the blood produced by peculiar occasions, we cannot in the present state of our knowledge turn them to any practical account; but probably hereafter more may be ascertained upon the subject than is at present known.

As general principles are the elements into which particulars resolve themselves, so these circumstances are of great use in directing us to the ultimate facts or principles.

In febrile affections we must take into account specific states of the body, and one is that which occurs in a woman after delivery. When I began to compile the second edition of my treatise, I felt myself in a dilemma. I was not satisfied by the vague term puerperal fever, but I endeavoured to reconcile it by giving a definition of what has been called by different authors puerperal fever. If I were to write again I should have no such feeling of delicacy, but would discard the name altogether. It is certainly important to have a distinct conception of the subject; and the term puerperal fever seems to imply something peculiar. Medicine has been so much improved as to require a nomenclature as different from that which was formerly in use, as the nomenclature of modern and of old chemistry. What would you think if I were to call fever, because it occurred in a child, infantile fever? or because it occurred in an adult, adolescent fever? or because it occurred in an old person, senile fever? or because it occurred in a plethoric person, full fever? or because it occurred in a weak person, slender fever? or because it occurred in the city of Bath, Bath fever? or because it occurred after eating a cake, bun fever? or because it occurred in a negro, black fever? or in a fair complexion, white fever? These would be very absurd terms, but not more so than the term puerperal fever; for what is called puerperal fever I repeat will be found, by an appeal to nature, not to be a disease *sui generis*. Fever is frequently occurring in the puerperal state, sometimes from common, sometimes from peculiar, occasions; and it has in some instances a congestive, in others, a simple, in many, an inflammatory character. The only modifying circumstances are the state of the patient, and the occasions which produce it. If a woman were seized with small-pox two or three days after delivery, would you call it puerperal fever?—Certainly not; because you would see the indications of small-pox, but it would be so modified by the condition of the patient, that the inflammation would fall on the serous membrane of the abdomen. If she were attacked with scarlet fever, would you call it puerperal fever?—Certainly not; because you would have the indications of scarlet fever. If she were seized with measles, would you call it puerperal fever?—Certainly not; the external character would be distinct, with a superadded abdominal affection. If either of these occurred in the puerperal state you would have abdominal affection invariably occurring, because the abdomen is the predisposed part; but the puerperal state would not make the affection peculiar. If typhus fever were to occur during the puerperal state, that state would not make the disease peculiar; the only modifying circumstance would be the state of the abdomen. And the fact is, that all these affections do

occasionally, though rarely, occur in the child-bed state. Typhus fever occasionally occurs in this state in London, especially in those districts where malaria exists. Last year I saw four or five cases in St. Pancras, and superadded to the affection of the membranes of the brain, bronchial lining, and mucous membrane of the intestines, there was a most intense inflammation of the peritoneum from the peculiar condition of the patient. The attack of typhus fever in a puerperal state, in the majority of examples, occurs as a congesto-inflammatory form of fever, with a low heat on the surface, with a feeble and even a fluttering pulse, with a glazed brown tongue, with a weak and hurried respiration, with a red-tipped tongue, and with intense tenderness of the belly. I saw two cases of this kind recently with a very intelligent friend of mine, who treated them very properly, yet both cases were fatal. Both during life had the symptoms of genuine typhus fever; and after death both had the appearances which are found after fatal cases of typhus fever; the state of the abdomen was the only modifying circumstance. From one of these I took a pint of blood. When the linings of the bowels, or the linings of the bronchiæ, are inflamed, the redness disappears shortly after death: this should be remembered. In both the cases I am alluding to there was great organic disease; they both had disease of the lungs, and they both had disease of the liver: in one there were appearances of inflammation in the inner parieties of the heart. All this, however, does not constitute any difference from common fever, except the modifying circumstances. Typhus fever generally sets in, in the puerperal state, with intense bronchial inflammation; and yet, from the seat of the inflammation, you cannot treat the case actively; for in all cases when the bronchial affection is very distinct, and the tongue is at the same time brown, glazed, dry, and varnished, there is an inconsistency in the case. If you treat the abdominal inflammation on ordinary principles, the patient would sink rapidly from the influence of copious and repeated blood-letting; while if you treat the bronchial affection mildly, the abdominal affection will advance so rapidly as to destroy the patient's life. These cases are exceedingly difficult, and the best plan is to pursue a middle course: to act on the bowels by calomel and cold-drawn castor oil, and apply leeches to the abdomen. A patient in the last month of pregnancy had typhus fever in the Fever Hospital, and was delivered in a few days. She still laboured under typhus fever, and serous inflammation came. Leeches were applied at a very early period, and she was saved.

You may have an open form of typhus fever, with an intensely hot and dry skin, and a quick, hard and contracted, or expanded, pulse;

and after a certain period the case will put on all the characters of typhus fever. This may be promptly met by active treatment; and in these cases the patient has a fair chance for life if she be properly treated. I saw a case of typhus fever in the wife of a surgeon. It occurred after delivery, in an open form, and by copious and repeated blood-letting she did well.

Most frequently, however, typhus fever in the puerperal state, especially in low stifling apartments, rapidly puts on the characters of the advanced stages of typhus.

An interesting question may be asked: "Is puerperal fever contagious?" Suppose a case of common inflammation of the lungs, of the brain, or of the abdomen; would you suppose it could be propagated by contagion because it occurred in the puerperal state? I cannot, upon reflection, believe that this ever occurs. But if the affection arise from the contagion of small-pox, it will propagate small-pox; and so of measles and scarlet fever. Another very important question is, "Would you consider typhus fever, which arises from malaria or marsh effluvia, capable of being propagated by contagion because it occurred in the puerperal state? I doubt exceedingly whether it is so in any stage. I once thought that typhus fever arose from human contagion; I have, however, lived to change my opinion. I cannot come to a certainty upon this question without more facts than I possess. If it be propagated by contagion it will be so in the puerperal state. Most practitioners of medicine are disposed to believe that all puerperal fevers propagate themselves by contagion; but this appears, after extensive observation, to be a very absurd proposition, and not borne out by facts. Why is an inflammatory fever occurring in the puerperal state to propagate itself by contagion, which it does not do under any other circumstances? and what is there so peculiar in the puerperal state as to render the fever then occurring so peculiar as to propagate itself by a poison which is formed during its progress? It is surprising how the opinion of the contagiousness of typhus fever occurring in child-bed influences some men. Since my residence in London I attended a lying-in hospital, in which two medical men declined attending because they were so much afraid of propagating the contagion. I could not but admire their principle, but on investigation I had no reason to believe the affection was at all contagious; and I am satisfied that it arose from a local contamination of the air in those wards, from the odour of the stools, of the urine, of the breath, and of the lochial discharge. All the women whilst I attended the institution had fever in the puerperal state; but the question is, "Do individuals removed

from such an atmosphere propagate such an affection?" It is just possible that a medical man might imbibe some taint in his clothes, and give it out in another atmosphere, but it is not probable. I have never heard of a well-authenticated case of small-pox, &c. being so propagated. In determining this very important question, we want facts, and not assumptions; and the facts require to be most accurately examined, because human testimony is liable to very serious errors, an instance of which I mentioned when speaking of typhus fever. If a single doubt remain on the mind of any man he is bound to act as if it certainly were contagious: yet I do not say that it is contagious. What has been called hospital puerperal fever I have seen under a highly inflammatory form. I cannot say that it has the character of typhus fever; and authors state that it is contagious.

The occasions, then, which most frequently lead to fever in the puerperal state are the common occasions of common inflammatory fever, but sometimes they are constitutional states of the atmosphere; and they are favoured in their operation by the peculiarities of the puerperal state.

PREDISPOSITION TO FEVER IN THE PUERPERAL STATE.

1. One of the most remarkable predisposing occasions is a plethoric condition of the system. There is, in consequence of the mother having two systems to support during gestation, a large increase of blood, and an alteration in the quality of the blood; for it has been correctly remarked that the blood drawn in the puerperal state generally exhibits the buffy coat, and is redder than natural. There is then an excessive generation of blood; the appetite continues good, and the bowels are slow, and, especially in the advanced stage, the pulse is more round and expanded than natural. You should therefore avoid, during, and especially towards the close of, gestation, a too full or a too stimulating diet. I would recommend you to make a point of frequently visiting in a friendly way females whom you are engaged to attend as an accoucheur, during the last month of pregnancy, because simple fever often occurs then, and inflammation generally succeeds. The skin is hotter and the pulse quicker than natural, the tongue slightly furred, the eye bright, the face flushed, and the woman's rest at night is disturbed. When you observe these symptoms in the last month of pregnancy, particularly the disturbed sleep, so that the woman tosses to and fro at night, or gets up to cool herself, you should attend to them carefully. If you allow this state to go on, it generally happens

that the fever, which was simple, goes into the inflammatory form, or at all events exists in a greater degree after delivery ; and perhaps the patient may lose her life. Keep the patient at rest in a cool atmosphere, open the bowels gently, lessen the diet, and take off all stimulating drinks ; and if this fail, moderate bleeding may be had recourse to.

2. In pregnancy there is an increase of the sensibility and irritability of the body. A pregnant woman is a perfect sensitive plant, alive to the slightest touch. Any slight circumstance, whether a stimulant or an irritant, which in a healthy condition perhaps would produce no sensible effect, now makes a most powerful impression, and increases the heart's action remarkably. It is therefore of importance to avoid stimulating the system before and during delivery ; and you should be very cautious in regulating the diet, so as not to offend the stomach, either by the quantity or the quality of the food, and not to encourage the formation of too much blood. Sedentary females generally have a far higher degree of sensibility and irritability than those who take much exercise in the open air ; hence I am confident that fever in the puerperal state is far more common in London than in the country ; and the diet and habits of the persons who live in the country are more temperate than of those who live in London. Delicate females who shut themselves up during gestation, and who sit up late at night, are rendered extremely prone to fever after delivery. A practitioner in the country told me that he had never seen a case of fever after delivery ; but he said that all his patients were constantly in the open air. Lycurgus, the lawgiver of ancient Sparta, compelled pregnant women by his institutions to pay attention to the diet, to early exercise, and to the hours of rest.

Tranquillity of the mind is very necessary in the puerperal state. Mental associations have amazing influence, for instance, alarm at hearing of other cases. A lady lost her sister in puerperal fever, and she brooded over the loss in the pregnant and puerperal state ; fever came on after delivery, and she also died. Many a woman is worried into fever by the bad treatment of her husband. The anxiety of mind too that follows seduction is very frequently the occasion of fever after delivery. Surely no criminal is more base than the seducer ; he is a cold-hearted, hypocritical, and cruel wretch ; and considering the great extent to which the crime is carried on, it is surprising that the legislature of this country do not attend to it. After the great national loss which occurred in 1817, fever in the puerperal state was extremely common in women pregnant at that time. The sensibility and irritability of their bodies were increased by the recollection of the death of

the Princess; and the state of the abdomen predisposing it to inflammation, fever came on, and thus many lives were lost. Sometimes the same circumstance occurs in certain epidemic states of the atmosphere. A medical man should endeavour to inspire his patients, especially those who are anxious, with confidence in his power of preventing what is called puerperal fever; and thus he will very often prevent an attack altogether. When it is prevalent in a town, or even in the country, he should, during the puerperal state, regulate his patients' diet, and afterward their exercise, and administer some placebo; and he should be exceedingly careful when the patient labours under any mental anxiety.

When copious hemorrhage occurs after delivery, a medical man should be very guarded as to the treatment: signs of fever may arise which runs a rapid course, and soon becomes ungovernable, like a wild horse without a bridle. After a copious internal hemorrhage, it is important to watch the patient narrowly; to keep her cool, and strictly at rest in a recumbent position; to adopt a bland diet; to keep the bowels moderately open; and to allay irritation by a full opiate in the first instance.

3. The peculiar condition of the uterus and abdomen powerfully predisposes to inflammation. This should be taken into account before delivery. The uterus, uncommonly enlarged, presses on the abdominal viscera, disturbing their functions, distending the peritoneum, creating a tendency even then to disease in these parts, especially if the bowels be neglected. If the colon become overloaded, the delivery is apt to be far more painful than otherwise, and the bladder is apt to be distended. The accumulation of fæces frequently acts as an irritant, and induces fever. Hence you may infer the great importance of keeping the bowels gently open during gestation, so as to prevent the retention of scybala, by castor oil (which is one of the best aperients), by injections, by infusion of rhubarb with an alkali, or by some bitter with infusion of senna with manna and salts. Avoid harsh purgatives, for they increase the action of the mucous membranes, and predispose to inflammation.

Sometimes before delivery women cannot take exercise without feeling a downward dragging pain in the lower part of the belly; and when this occurs you may suspect that it probably arises from the navel string being twisted round the child's neck, by which the uterus is actually dragged. A friend of mine tells me that he has known this circumstance predispose a female to inflammation. In these cases great care should be taken after delivery.

If the labour be severe you should be exceedingly attentive for several days, because fever may arise. If there be external irritation be very careful; and the greatest care is also very necessary even if the labour be natural. Celsus observes, that after delivery the abdomen is to be considered as wounded to a great extent: the peritoneum has undergone great change, and it not only covers the abdominal muscles, but is reflected over the intestines, and inflammation is apt to be communicated from one part to another. One rule which above all others I advise you never to forget nor neglect is this: for the first five days after delivery visit every patient twice a day. You need not tell the patient that it is necessary, because it is desirable not to alarm her; but a woman might be attacked with fever in the evening, and from a delicacy of feeling towards the medical man might not send for him until after ten or twelve hours, the loss of which time might be fatal. I know several excellent men who have lost patients from not attending to this rule. Some months ago an intelligent friend of mine delivered a patient on a Saturday. On Sunday morning he visited her, and finding her going on very well he did not think it necessary to call again that day. At seven o'clock on Sunday evening she had a cold shivering fit, and at eight o'clock the hot stage was fully developed, with violent inflammation of the abdomen. It was thought to be of no importance, and they did not send for the medical man till ten o'clock on Monday morning, and then he was horrified by finding that all was over as far as treatment was concerned: the mischief was done; the inflammation had gone on very rapidly, and she died shortly after he saw her. Had he called upon her on Sunday evening she would probably yet have been alive. This is not a solitary case; always, therefore, observe this rule, that if fever arise, you may have an opportunity of arresting it at its onset.

THE REMOTE OCCASIONS OF FEVER IN THE PUERPERAL STATE

may be peculiar, and will be marked with peculiar effects, but generally they are common.

1. Depressing agents are amongst the most frequent. What we call cold is one of these; a low or variable temperature. It frequently chills the whole surface, because the body has previously been exhausted by pain; and this congestive stage is followed generally by excitement, and the abdomen being predisposed becomes inflamed. Any mental agitation, such as alarm, or fear, or any unpleasant intelligence, will sometimes produce this stage and its consequences. Sometimes indi-

gestible food, for instance, solid food, taken within the first three or four hours after delivery, will have the same effect. I saw a lady who ate some indigestible food on the second day after her confinement; and such a shock was produced that the surface became pale and the strength prostrate; after which a hot stage was established. In some cases the patient never rallies, but dies in the congestive stage, and after death you find distinct proofs of congestion. These are the most formidable attacks of congestive fever that I know of, and the object is to bring on excitement if possible; after which you may have simple, but more commonly you have inflammatory, fever. Excitement generally takes place; and if it happen in two, three, four, or five days after delivery you have inflammation of the belly, because it is the predisposed part. Avoid then all this class of occasions.

2. Stimulants, either mental or material, may produce fever after delivery. I have seen several cases arising out of these sources. If a woman be allowed to remain in a hot apartment after delivery, and if she be allowed to converse much with her friends, or servants, the material and mental excitement may concur in producing fever. A lady was delivered in the evening, and was transported at the sight of her babe; the feeling was novel and exquisitely pleasurable to her. There is no feeling in the human breast so pure as that which is awakened on this occasion; there is no intercourse so mysterious as that which exists between the mother and her child; but it should be restrained if possible. The fire was too large, and the temperature of the room was too high; several friends of the lady were conversing with her and admiring the child, and the excitement produced by these circumstances was followed by an attack of fever, accompanied by most violent inflammation, under which she died. Repose is the best preventive of fever in the puerperal state.

After delivery, give the patient a dose of opium: not a small dose, not less than thirty-five or forty drops of the tincture. Avoid a chill. For the first four or five days allow but one person to visit the patient, and let that person be some confidential friend, who is to be admitted only once a day.

An intelligent friend of mine told me that two cases of fever in the puerperal state in his practice occurred after taking a cup of tea. I have seen strong tea, particularly green tea, excite fever in the puerperal state. From gin it occurs almost certainly. I saw a case which occurred from taking a large draught of porter immediately after delivery; it terminated fatally within twenty-four hours. Diffusible stimulants should be strictly prohibited.

3. Local irritants. One of the most common, perhaps, is the too repeated examinations made by young practitioners. They are disposed to be too officious in the practice of midwifery. They also commit another great error, which is a too hasty or too rough removal of the placenta, which often produces fever by operating on the whole nervous system, in consequence of the local irritation. A gentleman extensively engaged in the practice of midwifery had case after case occurring, which induced him to use a little violence in extracting the placenta; and he was surprised to find that all his patients had puerperal fever. He told me that after he was more cautious no future attack occurred in his practice. Bear in mind that nature is generally quite sufficient for all the purposes of delivery with very slight assistance. Beware of instruments, which require a great deal of caution, and delicacy, and dexterity, though they are sometimes necessary; and I think Dr. Davis has produced a great improvement in the forceps, which seem to me formed better than any others. I have seen him apply them with very great dexterity; in his hands they answer very well, and are perfectly safe: but I have seen so much mischief arising from the abuse of instruments, that I caution you against it. The use of instruments is hardly ever required except in cases of deformity. A man who is in the habit of carrying instruments in his pocket, should do as Obadiah did with Dr. Slop's instruments at the birth of Tristram Shandy, Esq.; he put them in a bag, and tied and sealed them so tight that the doctor should cut his fingers before he could get at his instruments. It is remarkable how much the uterus will bear if the woman be well managed after delivery. A lady in the early months of pregnancy had inflammation of the os uteri, which was sealed up by a cartilaginous or fibro-ligamentous substance. All the pains of labour were insufficient to rupture this substance, and to produce an opening; and as the patient seemed to be sinking, it was agreed by three accoucheurs and myself, who were present, that an incision should be made into the part by the scalpel. This was done, and the child was extracted by instruments, yet the woman had not a single bad symptom, and recovered rapidly, from the diet and drinks and rest and temperature being properly regulated. In the north of England lives an old woman, of simple manners but of strong sense, who is courted by all persons of consequence, as she is very successful. She attends to the patient's diet very strictly, allowing nothing but gruel for the first five days after delivery, and she not only gives directions, but sees that they are carried into effect; and I recommend you to adopt the same practice. She endeavours to avoid all mental excitement, abstracts diffusible stimulants, regulates

the temperature of the room, and the bed-clothing, and she has scarcely ever lost a patient in the puerperal state. The prevention of these affections if possible is most important; for though you get no credit by preventing fever, though you will, perhaps, make no noise in the world as one who has cured fever in the puerperal state, which is really one of the most formidable affections that ever attacks the human body; yet you will have self-approbation, which affords the purest gratification which we can enjoy, which it is at all times desirable to possess, and which is far preferable to the shouts of the crowd, or any other species of applause. It is like the blood which is in the heart,—it circulates around the body, visiting, refreshing, and sustaining all parts of the system, and yet its course is silent and unseen, as secret as if it had no existence.

I am in the habit of tracing things through their general consequences, and I am confident that purgatives, especially early given, have actually led to fever in the puerperal state; some give them immediately after delivery. My attention first was directed to the effects of purgatives, by hearing of some cases in the country in which they were used and appeared to produce the fever; and from my own observations I am equally inclined to condemn this practice, for I have certainly seen peritonitis induced by the early use of harsh purgatives. If the diet be spare, the temperature regulated, and the patient kept at rest, I advise you never to give a purgative till the third day: to allow the bowels to rest until the milk begins to appear in the breasts, at which time some irritation generally supervenes. The best aperient then is, not castor oil, but an ounce or an ounce and half of infusion of senna, a drachm each of sulphate of magnesia and manna, three or four grains of magnesia, and a few drops of tincture of henbane: which may be repeated in four hours if necessary; and if this produce any irritation, allay it promptly by opium. If there be any accumulation of scybala in the colon after delivery, remove it by means of an injection, which should be properly administered, for otherwise it may cause irritation of the intestine, and fever may arise. If, therefore, you have no person upon whom you can depend for its proper administration, you should give the injection yourself. Nothing which affects the comfort, or health, or life of a fellow-creature is mean or degrading to you, for the principle dignifies whatever you do. From the bladder being distended, irritation may arise and lead to fever; therefore you should relieve the bladder, if necessary, by the introduction of the catheter. If any external irritation or inflammation arise, be very careful to allay it.

4. Interruptants occasionally give rise to fever in child-bed ; for instance, a torpid condition of the liver. If there be any impediment to the circulation through the liver, the mesenteric vessels become unusually gorged, and the intestines are thus rendered very prone to inflammation.

5. Peculiar constitutions of the surrounding atmosphere sometimes act as predisposing, and sometimes as remote, occasions. In London fever occurs in child-bed in certain states of the atmosphere, and I have seldom seen one case at a time. I generally find that it prevails in other parts, which seems to show that there is something peculiar in the atmosphere. This condition, analogous to what exists when epidemic catarrh is generally prevalent, seems rather to predispose to, than excite, fever ; but whether the one or the other, by proper management you may prevent an attack, as I have explained in a former part of this lecture. Sometimes you will find it epidemic, in whole countries ; and it lately prevailed in Edinburgh. Sometimes it occurs in hospitals, sometimes in particular houses at particular times.

When fever arises in the puerperal state it may be congestive, for instance, when it arises from depressants ; it is sometimes, though rarely, simple ; generally it is inflammatory ; and why ? There are three reasons why persons should have inflammatory fever in the puerperal state.

1. The sensibility and irritability of the body are increased, which renders the excitement excessively high when fever does occur.

2. The plethoric condition exists in the system, which would be more general were it not for the milk and the lochial discharge, and where this discharge has been very sparing fever is apt to arise.

3. The condition of the pelvic and abdominal viscera is tender. The observation of Celsus is very practical and just, that a woman after delivery should be treated exactly as if she had undergone an operation. You must endeavour to avoid all those occasions which produce the effects of which we are speaking.

PATHOLOGY OF FEVER IN THE PUERPERAL STATE.

When fever does occur in the puerperal state, especially from common remote occasions, the inflammation mostly falls upon the proper peritoneum and upon its reflections over the bowels and the uterus. These are shown by dissection to be the seat of the acute inflammation which occurs in the first five days after delivery. If inflammation, take place at a later period other parts also may be inflamed ; for example, I have

seen the brain at the same time inflamed, and in other cases the chest, because these other organs have been predisposed, and then sometimes there is no abdominal affection. I saw a case which occurred nine days after delivery, in which only the lungs were inflamed.

SYMPTOMS OF FEVER IN THE PUERPERAL STATE.

It comes on most frequently in the first five days; and the earlier it arises the more severe will be the fever, and the more intense the degree of inflammation.

When it arises from depressants, there is a cold stage; when from stimulants, the cold stage is generally absent; most frequently, however, it comes on with a shivering fit and all the marks of abdominal inflammation, the indications of which I have mentioned in a former lecture, and to which I shall allude in speaking of the diagnosis. Dr. Hamilton thinks nothing deserves the name of puerperal fever unless the lochial discharge is continued. If the opinions of any individual, however high his authority may be, are incorrect, they should be promptly and openly refuted; for the opinions of men are only valuable to us as far as they are true. Now this opinion of Dr. Hamilton's is excessively absurd and dangerous. I have seen a great deal of fever in the puerperal state, and am sure that sometimes the lochial discharge is arrested, sometimes continues: but this is of no consequence as far as the fever is concerned. The secretion of milk is generally suppressed.

When the pulse becomes quick, and the skin hot with inflammation, you have two stages.

First, you have a skin hotter than natural, and a pulse quicker than natural, and either full and expanded, or small, hard, and contracted, like a cord; the patient has a flatulent stomach, with pain on pressure over the bowels. Watch the countenance of the patient when you make the pressure: when she winces, and has a hot skin with a quick pulse, you are sure there is abdominal inflammation, and you may determine by reference to the symptoms whether in the peritoneum, uterus, or bowels. This is not of much consequence, as the same treatment is required.

If the inflammation be very acute in this stage perhaps it runs its course in twelve or fourteen hours, sometimes in twenty-four hours, and sometimes it is even protracted to forty-eight hours, but seldom beyond the third day.

The second stage, or stage of collapse, is announced by the pulse becoming small, weak, and quick, ranging from one hundred and forty

to one hundred and sixty in a minute; by the skin becoming cool even about the central parts of the body, but especially about the extremities, and becoming clammy; by the abdomen becoming round and distended like a barrel from the generation of gas in the intestines, and generally painless; by the patient having a weak and anxious expression of countenance, a hollowness about the eyes, and almost always a passive gulping in the stomach, and sometimes an excessive oppression of the chest; sometimes the matter vomited is like coffee grounds in appearance. It is astonishing how tranquil and serene the mind sometimes is in the last stage of simple abdominal inflammation. I attended a lady who believed herself to be dying, and she made a most solemn appeal to me to inform her whether her fears were correct or not. I remained silent: but she read my looks. She took a most affectionate leave of her husband, and gave him all the consolation she could; and thanked me and another physician for our attention. She gave the most precise directions about her affairs; until at length she placidly resigned herself to the slumbers of death:—she became dim in her sight, and her hearing became obscure; and then she was wrapt in that cloudy void which separates the dying person from her friends at the close of life. She died in a most calm state of mind. But the last illumination of the mind was bestowed on those around her: it was that pure and parting gleam of intellect which beautifies and sanctifies the body in its fall to earth and ashes.

Generally patients in this state die very gradually, and the mind acts distinctly sometimes when the pulse has left the wrist. Bear this in mind lest you commit yourself by giving an erroneous opinion. In a former lecture I mentioned a case illustrative of this point.

MORBID ANATOMY OF FEVER IN THE PUERPERAL STATE.

The appearances after death are the common appearances of inflammation of the bowels, peritoneum, or uterus.

DIAGNOSIS OF FEVER IN THE PUERPERAL STATE.

If the proper peritoneum, and the uterus also, be inflamed, the abdomen is tense and hard all over and very tender, the skin is very hot, the face flushed, the breathing very much hurried, and the pulse excessively quick and expanded; the patient lies on her back with the legs drawn a little up. There is no vomiting in the first stage; but if the serous membrane of the bowels be affected at the same time,

vomiting does occur at an early period, and you have, with universal tenderness of the belly, a much smaller pulse with greater oppression of the whole body. There is pain on pressure, either over the whole abdomen if the proper peritoneum be inflamed, or limited in extent if the uterus alone be affected.

You may mistake a distended bladder for inflammation of the uterus. The uterus will be found a smaller, very hard, circumscribed, distinct tumour above the pubes, easily distinguishable from the distended bladder, which is more diffused. If you have any doubt, however, introduce a catheter, and, having drawn off all the urine, if the tumour remain you are certain that it is the uterus; and if there be pain on pressure, with a quick pulse and a hot skin, that it is inflamed.

After-pains may be distinguished from inflammation of the uterus: in fact you could hardly confound them if you were attentive, because in after-pains the patient has distinct intervals of comparative ease, while in hysteritis the pain is constant, and is increased by motion or by pressure, by coughing, sighing, or stretching the legs. In after-pains, slow, gradual, firm, and steady pressure on the uterus will be borne, but in inflammation of the uterus steady pressure cannot be borne well. Look also at the position; when the peritoneum is inflamed the patient lies on her back with the legs drawn up, and is cautious in every movement of the trunk; in after-pains the movements are easy and free. In after-pains you have never the hot skin and quick pulse to the same degree in which they attend inflammation of the uterus; fever is present in the one, and absent in the other case.

If you want to distinguish whether the inflammation of the uterus arises from common occasions, or from contagion, or from genuine typhus fever, you must recur to the conditions I mentioned as those on which the symptoms depended. In typhus fever you have an affection of the brain; a dusky face and lip; and you may almost always perceive a varnish-like glue upon the tongue, or a glairy edge with varnish on the centre; and this never occurs from a common occasion.

In sub-acute inflammation, on the one hand, you have a small, soft, compressible pulse, and but little heat on the surface of the body; in acute inflammation, in addition, you have a hot skin, a moist tongue, disturbed respiration, a pulse full and expanded, or hard and contracted, and a bright eye.

TREATMENT OF FEVER IN THE PUERPERAL STATE.

Recollect that the inflammation runs a far more rapid course than any other inflammation except acute laryngitis, on account of the peculiar state of the abdomen, and the increased sensibility and irritability of the body: this rapidity of progress, with the great extent and high degree of intensity of the inflammation, must never be forgotten. If any man cannot make up his mind to treat inflammation of the abdomen, occurring from a common occasion, or from constitutional states of the atmosphere, with great promptitude and decision, he should have the candour to confess it to the patient's friends. If he have not the manliness and honesty to do this, but content himself with having recourse to subordinate remedies, he will violate that duty which he owes to the patient, and betray the most sacred and hallowed trust which one human being can confide to another. Nowhere is promptitude so successful, nowhere is indecision so mischievous. Your patient has claims upon you which you must be vile and brutal not to fulfil: she comes before you in a peculiar character, she comes before you as a mother, and can you, dare you, deny her sacred claims upon your talents? Surely if there be one object which can interest the head and heart of a medical practitioner more than another, it is a woman dying in childbed. The husband too is intimately concerned; no circumstances can grieve him so much as the death of his wife in the puerperal state, not only because he becomes by the death of his wife perhaps the father of a motherless family, but he looks upon himself as almost the murderer of his wife; and can you, dare you, refuse to repay the confidence he reposes in you? Amidst such circumstances too the infant is apt to be neglected; and thus, if you fail to use decisively and promptly the talents which you have received from God for the use of your fellow-creatures, you may have the galling consideration in the evening of your life, that but for your misconduct the flower and the stem would not have withered at once. So frightfully rapid is the advance of the inflammation that in twelve or twenty-four hours all hope is lost—we cannot roll back the tide of time—we cannot recal the circumstances even of a few brief hours: it is your duty, therefore to attack it early, to crush it as it were with a giant's grasp. If you treat the patient actively at the onset of the inflammation you will certainly be successful, and will be able to save nineteen cases out of twenty even in London; but if you do not act with promptitude and judgment when the patient is in this perilous condition—if you waste

hour after hour of precious time, which give opportunities that never will recur, in subordinate things and in any secondary remedies, the life of your patient will fall a sacrifice to the disease. Now, inflammation is the cause, and bleeding and opium are the remedies;—inflammation, I mean, of the uterus, peritoneum, or bowels, or all of them, arising from common occasions or from constitutional states of the atmosphere.

My attention was strongly called to the necessity of some addition to blood-letting in the treatment of peritonitis five years ago. I attended a lady in a very acute attack of inflammation of the peritoneum; which seemed twice to be arrested, but excitement returned, and the affection was renewed, so as to defy all my efforts to subdue it. On reflection I came to the opinion that she died of the hemorrhagic reaction which succeed each abstraction of blood. The heart's action fell, and the inflammation was perfectly removed by the copious evacuation of blood; therefore I thought that if some remedy could be found to prevent the hemorrhagic reaction, the treatment of the affection would be materially improved. On consideration I thought we had such a remedy in opium. Some time afterward I saw a lady who had peritonitis, for which she was bled in the morning with complete relief of the fever and inflammation, both of which returned in the evening, and were again removed by blood-letting in the evening. Still they returned at night, and on the following morning required the evacuation of blood, which was carried to approaching syncope. Three grains of opium were then given. Three one-grain pills of opium were given after the first dose at intervals of an hour; the patient fell into a tranquil sleep, with a copious perspiration, and recovered perfectly.

Half measures do no good, but harm: they sink the strength without removing the disease. Absolute debility rightly managed is never dangerous. I attended five or six cases of typhus fever with one gentleman who knew my opinions and practice. I wished one patient to be bled to approaching syncope, and when he got half way he became afraid, and bound up the arm. I knew that if I alarmed the patient I should do mischief, and therefore I retired with the medical man into another room, and requested that he would unbind the arm, and let the blood flow to approaching syncope, or if he would not do that, I must have left the house, and left to him the responsibility of the case. He consented to do as I wished, and afterwards gave her a full opiate, and the patient recovered rapidly. I have met several medical men who have lost patients by temporizing. They bleed a patient to-day and to-morrow, and the next day they send for a phy-

sician; whereas you should do all you have to do in eight or ten hours, and then adopt mild treatment afterward. One medical man told me he had adopted my plan: but upon inquiry I found he had bled his patient twice in forty-eight hours, and was doubting whether he should abstract blood again. Now what he did in forty-eight, I should have done in eight hours. Called to such a case I recommend you to bleed the patient, without regarding the quantity of blood, to approaching syncope—until the pulse completely falters, the face becomes pale, and the hands drop by the side; this is the effect you are to have in view. As soon as the patient recovers from the syncope, administer three grains of opium, made into a soft pill, or a hundred or a hundred and twenty drops of tincture of opium in a very little water. A small dose will be no more effectual in overcoming the tendency to reaction than a drop of rain falling on the wing of a water-fowl will in arresting its flight through the air. Let the apartment be quiet, and you may leave the patient two or three hours, not more than four hours. When you return, if you find any pain on pressure—(and you must not be deceived by the patient telling you that the pain is slight, or that she has no pain at all—watch the countenance when you make the pressure), adopt the same decisive means again. If pain and fever be present, why wait? Bleed to approaching syncope; and when the patient has recovered, give her two grains of opium, with two or three grains of calomel, because opium locks up the secretions of the liver. If the pain and fever continue after the second bleeding, it should be followed at the end of two or three hours more by a similarly decisive bleeding, and by the administration of a grain and half of opium, and three grains of calomel. Never be satisfied until the pain and fever are quite gone. I seriously and solemnly assert that I have treated nineteen cases out of twenty successfully when they have come under my care from the onset; but I will not dwell longer upon the subject now, because I have adverted strongly to the advantages of this practice in a former lecture. I have generally succeeded in removing the disease by the second bleeding.

If any slight degree of inflammation prevail you may apply leeches.

If the bowels be full after delivery you may administer an injection of a pint or a pint and a half of tepid water; and if inflammatory fever should occur, after the inflammation is subdued, open the bowels gently with mild aperients, such as castor oil; ensure perfect quietude and absolute rest, and regulate the diet very strictly. Recollect that aperients are but secondary measures in the treatment of these cases, and that the inflammation may be easily superinduced by harsh purgatives.

Sometimes after the inflammation is subdued you have what I call simple fever supervening. This gives way to a spare diet, absolute rest, regulated temperature, and daily mild aperient medicines. If these fail, digitalis has an excellent effect ; and sometimes calomel may be required when the liver is affected.

Lastly, as a relapse is very easily induced, you should avoid the extremes of heat and cold, but select a medium temperature ; avoid all anxiety as far as possible ; avoid a confined state of the bowels, cramming, and all those occasions which are apt to produce a relapse.

I have, I trust, in these observations, made it clear to you that the treatment of fever in the puerperal state rests on common principles. In the time of the late Dr. William Hunter almost every woman died of fever in the puerperal state ; and now, if it be the extreme congestive form of fever, or the masked form of typhus fever, which are always formidable, it will mostly be fatal. A woman now rarely dies of any other form of fever if she be properly treated. Dr. William Hunter is said to have lost thirty-one patients out of thirty-two, and if you advert to the treatment which he adopted you cannot be surprised at his want of success. Some he bled ineffectually, and to some he gave cordials ; but no plan was adopted which would remove the symptoms of inflammation. If we feel any degree of wonder that so eminent a man should have been so unsuccessful, we should remember that he lived in an age when the pathology and treatment of fever were but little understood ; the fault was not his, but is to be referred to the time ; and if we have advanced further—however great the change in our times may be—though a few men have assumed to themselves a proper independence of intellect and opinion and have in part dispelled the delusions and bigotry of past ages—it is only because we have partaken of the spirit of this enlightened era ; and still I have no doubt that what were once considered as the lights of the medical world will be lost in the splendour of the improvements of future years—will be eclipsed by the brilliancy of the observations which will be made by the present generation.

Before concluding this lecture I wish to refer to some subjects connected with the mental and general management of all febrile affections ; and inasmuch as the state of the patient's mind often has an influence upon disease, and requires to be watched with great attention, I shall call your attention to some qualifications which every medical man should possess, in order to practise successfully, and which are peculiarly necessary when he has occasion to treat acute affections.

1. What is called talent is an acquired thing. There seems to be an

original difference between man and man, as to the facility of acquiring information. Talent, in medicine, is to be wholly acquired. A medical man should acquire as complete an acquaintance as possible with anatomy and physiology, which are the foundations of rational physic. Unless he knows the healthy structure and functions of the body, he cannot discover when disorders and diseases exist ; because they form a contrast to the healthy state. A medical man should see patients constantly, and note down accurately all the symptoms which occur from time to time ; and when a case terminates fatally, he should, if possible, find the cause of death, by examination of the body. The effects of remedies, too, should be attended to ; and this includes the consideration of a knowledge of what those remedies are, the states of the body under which they are prescribed, and the effects which they produce.

2. Attention is very important ; and it should be displayed especially on the first visit to a patient, for the first impression is generally most powerful, and will guide a medical man through the progress of a case. The first time, then, you visit a patient, satisfy yourself not only of the symptoms, but of the conditions upon which they depend. In all the acute forms of inflammation the life of the patient depends on the attention of the medical man ; for instance, in the puerperal state, the fever allows but a short time for active measures, and this being suffered to pass over, the case will almost inevitably be fatal ; but if the time be promptly seized, and its opportunities made use of, the patient will probably recover.

3. Temper is necessary ; for if the temper be disturbed the judgment is overcast ; and not only does it influence the practitioner's judgment, but it influences the patient. You should acquire the most perfect control of your temper with regard to the patient and to your medical brethren. For if, in a consultation between two practitioners, one loses the command of his temper, the other, who preserves the control over his temper, has an immense advantage, because passion clouds the judgment.

4. Integrity is necessary. No man ought to practise a profession so vitally important as that of physic unless he holds the lives of his fellow-creatures as among the most sacred things with which he can have to do. Harbour not the idea that it is a light profession ; a man's heart and soul should be in it, or he should retire from it altogether ; or if any man take up the practice of the profession of physic as a business of little importance, he will sacrifice his own reputation—he will forfeit an invaluable possession, which is his own peace of mind ;

and not only so, but he will sacrifice the health, the happiness, and the life of his unfortunate patients. He who studies the profession of physic properly will be repaid by the confidence and gratitude of those who are intimate with him, and by what is still more precious, though its value is too often depreciated till it is lost, namely, self-approbation.

In addition to the qualifications which a patient has a right to expect of you, there is one thing which you are to expect of him. In acute and sub-acute diseases a medical man often finds that his reputation and the life of his patient depend on strict obedience to his orders, and therefore it becomes of the utmost importance that they be not disregarded. If my orders were not punctually obeyed in a case of acute or sub-acute disease, I would cease to attend the patient.

With regard to the general management of febrile affections I made some remarks in the lecture on common simple fever, which are applicable to the treatment of common inflammatory fever.

In all the infectious and contagious forms of disease be careful not to allow any curtains about the bed. They are very pernicious; because by accumulating the effluvia about the bed they aggravate the disease. In a cellar I have said that a more severe form of fever prevails than in a garret; and in typhus fever, scarlet fever, and measles, especially, you should lay the patient in an airy apartment. I saw a young woman in Holborn who was apparently dying of typhus fever, in a small room on the ground floor. Her tongue was quite black, and her skin was covered with black petechiæ. I ordered her to be carried up stairs, and gave her no medicine but lemon-juice. Contrary to my expectation she recovered, but I am confident she would not have lived twenty-four hours longer where I first saw her. I have repeatedly seen a great change produced in typhus fever by a change of apartment, especially to a room above the ground floor, where the air travels more rapidly and you can consequently command a more perfect ventilation. I believe that petechiæ almost always arise in consequence of a bronchial affection, except what are called *petechiæ sine fibre*. For the purpose of better ventilation, have a fire-place in the room, and make a little fire every second or third day. I recommend you as students never to sleep in a room where there is not a fire-place. The sleeping-rooms which are occupied by students in the borough, are many of them very bad. I have seen many students who have been very ill from this circumstance, and whose health has been improved by ventilating their apartments. The air which we breathe is very influential on our health. A very common deficiency in ventilation in all classes arises from a species of false reasoning; things are often done because they

have been done before, without reason. A room is shut up, and some aromatic is burnt in it which covers the offensive odour, and it is supposed that the air is purified; but the fact is, that one odour is stronger than the other, but still the impure air remains in the room. Never let this deceive you. Always ventilate the apartment daily if the patient has been confined more than three or four days.

It is gratifying to a patient to see comfort and cleanliness around him: aromatic waters, or flowers, are very beneficial; but if flowers be used they should always be removed at night, because they then give out carbonic acid gas. A little vinegar and water is often very refreshing to wash the patient's head and face with. Sometimes lavender water, or rose water, or any thing of that kind may be used.

Quiet is of great importance. More patients recover in the Fever Hospital than in private practice, because they are kept very quiet there. The proportion of deaths is not more than from one to ten or twelve, and those who die are literally moribund in most cases when they are brought in. In private practice the anxiety of friends prompts them to do too much, and they are asking the patient every half hour in the day whether he feels himself better or worse, and whether he will not take any thing. Point out to the patient and to the friends the importance of keeping him quiet; only allow food to be given three times a day; take care also to administer the medicine at stated periods, and not too frequently in serious cases.

Attend to the manners of the nurse, that they are quiet, and attend to your own manners as an example to others. I have seldom seen an individual more still in a sick room than the late Dr. Baillie. He was quiet, and unpretending, and cool, and acquitted himself as became a philosopher. I do not much admire a polished man, I like to see neither a dandy nor a courtier, but this is a mere matter of taste. No man can be popular and successful as a physician unless he possesses kindness of manner, which is necessary in attendance on patients under febrile diseases, when the mind is so prostrate and yet so sensible.

Our hospitals are planned without reference to the human mind. Twenty or thirty persons are placed in the same ward; a patient is admitted who is incessantly moaning, and disturbs those who are near him, so that their affections are aggravated by the noise. I have seen cases in the Fever Hospital lost from this circumstance. If I had to plan a hospital I would have several different apartments, and not a moan in any room where there was any other patient beside him who uttered it.

When a medical man visits a patient he should not betray any care-

and not only so, but he will sacrifice the health, the happiness, and the life of his unfortunate patients. He who studies the profession of physic properly will be repaid by the confidence and gratitude of those who are intimate with him, and by what is still more precious, though its value is too often depreciated till it is lost, namely, self-approbation.

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With regard to the general management of febrile affections I made some remarks in the lecture on common simple fever, which are applicable to the treatment of common inflammatory fever.

In all the infectious and contagious forms of disease be careful not to allow any curtains about the bed. They are very pernicious ; because by accumulating the effluvia about the bed they aggravate the disease. In a cellar I have said that a more severe form of fever prevails than in a garret ; and in typhus fever, scarlet fever, and measles, especially, you should lay the patient in an airy apartment. I saw a young woman in Holborn who was apparently dying of typhus fever, in a small room on the ground floor. Her tongue was quite black, and her skin was covered with black petechiæ. I ordered her to be carried up stairs, and gave her no medicine but lemon-juice. Contrary to my expectation she recovered, but I am confident she would not have lived twenty-four hours longer where I first saw her. I have repeatedly seen a great change produced in typhus fever by a change of apartment, especially to a room above the ground floor, where the air travels more rapidly and you can consequently command a more perfect ventilation. I believe that petechiæ almost always arise in consequence of a bronchial affection, except what are called *petechiæ sine fibre*. For the purpose of better ventilation, have a fire-place in the room, and make a little fire every second or third day. I recommend you as students never to sleep in a room where there is not a fire-place. The sleeping-rooms which are occupied by students in the borough, are many of them very bad. I have seen many students who have been very ill from this circumstance, and whose health has been improved by ventilating their apartments. The air which we breathe is very influential on our health. A very common deficiency in ventilation in all classes arises from a species of false reasoning ; things are often done because they

have been done before, without reason. A room is shut up, and some aromatic is burnt in it which covers the offensive odour, and it is supposed that the air is purified; but the fact is, that one odour is stronger than the other, but still the impure air remains in the room. Never let this deceive you. Always ventilate the apartment daily if the patient has been confined more than three or four days.

It is gratifying to a patient to see comfort and cleanliness around him: aromatic waters, or flowers, are very beneficial; but if flowers be used they should always be removed at night, because they then give out carbonic acid gas. A little vinegar and water is often very refreshing to wash the patient's head and face with. Sometimes lavender water, or rose water, or any thing of that kind may be used.

Quiet is of great importance. More patients recover in the Fever Hospital than in private practice, because they are kept very quiet there. The proportion of deaths is not more than from one to ten or twelve, and those who die are literally moribund in most cases when they are brought in. In private practice the anxiety of friends prompts them to do too much, and they are asking the patient every half hour in the day whether he feels himself better or worse, and whether he will not take any thing. Point out to the patient and to the friends the importance of keeping him quiet; only allow food to be given three times a day; take care also to administer the medicine at stated periods, and not too frequently in serious cases.

Attend to the manners of the nurse, that they are quiet, and attend to your own manners as an example to others. I have seldom seen an individual more still in a sick room than the late Dr. Baillie. He was quiet, and unpretending, and cool, and acquitted himself as became a philosopher. I do not much admire a polished man, I like to see neither a dandy nor a courtier, but this is a mere matter of taste. No man can be popular and successful as a physician unless he possesses kindness of manner, which is necessary in attendance on patients under febrile diseases, when the mind is so prostrate and yet so sensible.

Our hospitals are planned without reference to the human mind. Twenty or thirty persons are placed in the same ward; a patient is admitted who is incessantly moaning, and disturbs those who are near him, so that their affections are aggravated by the noise. I have seen cases in the Fever Hospital lost from this circumstance. If I had to plan a hospital I would have several different apartments, and not a moan in any room where there was any other patient beside him who uttered it.

When a medical man visits a patient he should not betray any care-

lessness of action or of manner. In many cases a single unguarded word, or mysterious look, would destroy the patient. In cases of fever always say something consolatory to the patient before you leave him. The practitioner should be very punctual with regard to his visits; if he promise to see the patient at a certain hour and not come, the patient will be uneasy till he arrives. Let me advise you not to get into a habit of disregarding your word, for your word should make every circumstance, although trifling intrinsically considered, of the highest importance; and if you neglect it you may waste the time of your fellow-practitioners, and time is not only "the stuff that life is made of," but it is the medical man's estate. I know two physicians in extensive practice who met in the street, and one of them said, I cannot think how you manage to be so punctual to your appointments as you are: "The reason is," replied the other, "that I never waste my time in talking to old women as you do." I have often seen a medical man, who seems always in a hurry, stop every now and then, and talk over all the chit-chat of the day for half an hour.

Lastly, the diet is very important. While the skin continues hotter than natural, and the pulse quicker than natural, the diet may be a little barley-water, or thin gruel, or thin arrow-root, with a little lemon juice, three times a day. You might as well attempt to build a house in flames as to sustain the strength in fever. Food keeps up a very great irritation upon the heart, &c. When the mucous membrane of the stomach or intestines is involved, food will do no good.

In the last stage of fever, when the strength gives way, the patient sometimes requires support or stimulus, as I pointed out in speaking of remittent fever under certain circumstances; here a little wine may be used, and the strength afterwards supported by light broths. If the advanced stage of fever be without inflammation, if you avoid all demands upon the strength, the patient will generally struggle through; and if fever be combined with inflammation, you will do harm; the only exception is in bronchial inflammation. The body, it should be recollected, is weaker than natural under fever, in conjunction with some disorder and disease.

These, with what I have before referred to, are the leading points with respect to the general management.

TREATMENT OF CONVALESCENCE.

I have seen more patients die from relapses of fever than from original attacks. These relapses generally arise from the inattention of

the patient, or from the ignorance of the practitioner. I am sure that in the earlier part of my practice, I lost many patients in the state of convalescence from sheer ignorance; and, perhaps, man learns as much, nay, derives more advantage, from his errors than from his successes in life. If a man lose a patient, it is a sacred duty, which is incumbent upon him to perform, seriously to reflect upon it, and candidly to inquire of himself whether he did any thing which might have been omitted, or omitted any thing which ought to have been done. He should strictly examine himself, that he may in future avoid the same error under similar circumstances.

Do not commit the common error of supposing that convalescence is recovery. Convalescence is a state in which all the powers of life are weaker than natural. There is general weakness, with great predisposition to affection in some part. This is especially the case in the subsidence of all inflammatory attacks. A convalescent should be treated as an invalid.

There are seven occasions which produce relapses.

1. Errors in diet. These may be either in the kind or quantity of the food. For the first two or three days of convalescence allow only a little increase in the quantity of gruel; then you may substitute broth for two or three days; and then you may allow a small quantity of animal food gradually. Moderation in the quantity, and simplicity in the quality, of the food are necessary, and form the golden rule of diet. Old women think they may give a convalescent any thing he wishes for, but this is a great error; there is a difference between the degree of hunger and the power of digestion which convalescents have. I saw a patient in a state of convalescence, she ate a piece of pork-sausage, and died in a few hours.

2. The administration of tonics and stimulants. Tonics are believed to be those remedies which convey strength; I do not believe that there is such a thing as a tonic in nature. I know that certain medicines produce a flow of bile, or evacuate the bowels, or decompose acidity, thus acting indirectly as tonics; but that any medicines convey strength, is a fallacy taken up and handed from age to age without examination. The only tonics are diffusible stimulants. A patient is alarmed at the relation of ill news, but if you give him a glass of wine, or of brandy, you increase the heart's action, and give strength. If you give strength by means of stimuli in fever, you renew or increase the fever, and this under very unfavourable circumstances. The best tonic I know of is a mild laxative daily.

3. A low or variable temperature. A low temperature will chill the

surface, and should therefore be avoided : a high temperature will stimulate, and should also be avoided. If you chill the surface of the body, a hot stage succeeds. This especially occurs if the patient be allowed to get up. This leads me to observe that—

4. Another occasion of relapse is over fatigue. A good rule when the patient is allowed to sit up long, is, if the patient sit up and the pulse continue not more than sixty or seventy, he may continue up some time, but if the pulse rise to a hundred and twenty, a hundred and thirty, or a hundred and forty, be careful not to allow the patient to sit up too long, or a relapse of fever will be produced.

5. Mental depression, or excitement. Bad news, or good news, will produce fever; either by a chill followed by reaction, or by exciting the heart's action and thus directly producing fever.

6. A very common occasion is overloaded bowels. Empty the colon every day by those medicines which act on the large intestines, as two or three grains of socotrine aloes with the same quantity of extract of gentian, or castor oil, or infusion of senna with sulphate of magnesia. If the stools show a deficiency of bile, give a mild alterative, as a grain of calomel or two grains of blue pill, every or every other night, to emulge the liver.

7. The state of the skin is of great consequence, especially in fever arising from peculiar occasions. In small-pox, scarlet fever, or measles, when the patient is convalescent, soak the skin in a hot bath for a considerable time, then soap it all over, wash the soap off, dry the skin thoroughly, and lay the patient between clean sheets.

If you prevent these occasions you will conduct the patient through the state of convalescence to that of confirmed strength. A medical man is apt to be thrown off his guard in cases of convalescence, but the patient is to be considered as in the same state as when an invalid, and if a relapse follow, it will occur under still more unfavourable circumstances than before.

Sometimes a patient is lost from chronic diseases arising out of convalescence from acute and sub-acute diseases. I have seen a very great number of cases of this kind. A person, for instance, after having had inflammation of the liver, has still a slight degree of inflammation; he goes about careless of his diet and drinks, and a chronic affection goes on in the liver of that patient to complete disorganization.

LECTURE XLII.

PREDISPOSING AND REMOTE OCCASIONS OF CHRONIC DISORDER
AND DISEASE.

IT is next required that I should enter upon the consideration of the second class of affections: namely, chronic diseases.

I have adopted the familiar arrangement of diseases into two classes, because it is more natural than the complicated system which is met with in books, and because it affords me a better opportunity than any other arrangement of illustrating my principles. It has probably prevailed from time immemorial, is now commonly adopted in medical conversation, and affords a lecturer an opportunity of being more precise than he could be with an artificial system, such as Cullen and others have adopted.

The treatment of acute and sub-acute diseases, (for I add the term sub-acute to express the same affection of different duration,) is very simple,—a few agents are brought to bear on them, generally very successfully. The reason of this simplicity depends on the simplicity of their pathology. A man whose prescriptions are varied and complicated shows that he has no precise notions of the conditions on which the symptoms depend, and, consequently, that his practice is empirical. The main principles of pathology in the first class of diseases are ultimate facts, deduced from more particular facts. These ultimate facts are congestive fever, simple fever, and inflammatory fever. General principles show the kind of fever; particular principles show its seat, degree, and duration, and all the circumstances which materially modify these affections, and which are of great use in a remedial point of view. A man selects a few remedies; prescribes them in reference to the modifying circumstances of each case; notes their effects under various states; and thus acquires great precision in the application of them.

The treatment of disease is not only medical, but it is general; and the general treatment of diseases is important, and is composed of many particulars: temperature, diet, and so forth. The medical and general treatment should be combined together, for in them is an efficacy which

neither of them separately possesses. A physician frequently visits a patient, writes a prescription, and leaves him as if nothing more were to be done; but before he leaves any patient under acute, sub-acute, or chronic disease, he should lay down precise directions as to the management. We must not look for success in the efficacy of single measures, but in that of a judicious combination of measures. If I were asked whether, in the first class of diseases, the medical treatment or general management is most efficacious, I should say the medical treatment, and the general management stands next. Still, however, the general treatment is of vast importance, for a neglect of it would destroy the efficacy of the medical treatment. Medicine is only efficacious, at least it is only highly efficacious, in acute and sub-acute diseases. If I wished to shake a person's confidence and make him a complete sceptic, I would take him to acute and sub-acute diseases in the advanced stages, of which he would see almost every case fatal.

There are some men who are sceptics in physic, and who pretend that it has little or no efficacy; this opinion they think they confirm by an appeal to great authorities. Thus we are told that in acute and sub-acute diseases in the early stages, Heberden had no confidence in medicine. There are several reasons why such men as Heberden have little confidence in physic. In the first place, they take a superficial view of the subject; and in the second place, they are called in late. No man can read the works of Heberden without perceiving he was a very superficial observer of nature. He was one of those who referred almost exclusively to symptoms, without any reference to conditions; and his opinions, however popular he might have been in his day, are of little use. When a man becomes a very popular physician he soon ceases to be useful; he is called in generally in the advanced stages, when the patient is moribund, just to give a sanction to the measures which have been previously adopted. This is the common routine of popular physicians in London. Heberden was a very popular physician in London; but his literary productions will soon be forgotten—they will be swept away by time, as wrecks from the shore by a spring tide.

We must then appeal to nature, and I confidently assert that no man can make such an appeal, and say that the efficacy of physic is not exceedingly great.

Another reason why some men say they have no confidence in physic is, that they do not like to blame themselves. There is a pride of opinion among medical men especially; there is a pride even in the fallacies taken up in early life—they attribute death to

the violence of the disease, to the unfavourableness of the surrounding circumstances, and so on; but they never arrive at the true cause, because they never suspect their own ignorance, which very often is the cause of failure. To see the efficacy of physic you have only to turn to the results in typhus fever, in scarlet fever, in all inflammatory affections in their various states. But the efficacy of physic is not confined to this. Convalescence is an important state; it is apt to be followed by a renewal of acute or sub-acute diseases, or by insidious attacks of chronic diseases, to the prevention of which I have lately directed your attention. If I were asked whether the medical or general treatment is of the greatest efficacy in chronic affections, I should say that the general management is of most importance, and next the medical treatment. Both, however, require to be taken together; their efficacy consists in a combination of measures directed to one end. There may be, or there ought to be, nearly or quite as much simplicity in the pathology of chronic, as in that of acute and sub-acute diseases. A popular physician, especially if he be an adherent to the nosology of Cullen, gives a name to affections which he sees the symptoms of; he adopts vague terms, and talks of Dyspepsia, Indigestion, Disorder of the Digestive Organs, General Irritation, &c. He prescribes for names as if they were things; and hence his prescriptions are complicated and vague. Nothing struck me so much at the commencement of my medical study as the number of medicines which were used. I first studied the structure of the body in the dissecting room: and then I went into a shop, and found that the number of medicines which had created in me so much surprise, were not only used, but used in combination. This I thought must be the result either of profound learning or of extreme ignorance. I then went to a large hospital, where I determined to observe and think for myself; and I was led to believe that the number of medicines, and the complicated prescriptions of them, were the result of the most profound ignorance—of ignorance covered with a semblance of learning. Nosologists use vague names as a covering to their ignorance; and thus they pretend to know something of many circumstances, of which, in reality, they know nothing.

A physician should appeal to the common sense and not to the ignorance of his patient. If he have a direct reason to give why he uses certain remedies, there is no reason why he should not explain it. If a patient ask of you the nature of his disease, it is your bounden duty to point it out, and the effects which you expect from the remedies. I would not employ a physician unless he explained his opinions thus. It may be that a man, although he had paid attention to diseases,

has no reason to give; and then let him confess his ignorance, and not be ashamed of it, for he can at least abstain from doing mischief. Why should he deceive his patient, when his want of honesty may destroy his patient's comfort and even his life? I would rather not practise physic at all than practise it as a system of deception. Patients have a right to know, and ought to know, these things; and if a physician attempt to cover his ignorance with the flimsy texture of sounding names, common sense will detect it; and it is humiliating to think that any man can so far descend from the dignity of his profession as to affect information which he does not possess. Candour is absolutely necessary in order that a physician should practise successfully.

But let us proceed now to consider those affections to which we apply the epithet chronic, and I hope I shall be able to show you that in chronic affections, as in those which are acute, there are precise principles of pathology, and that some of these belong to both classes in common.

In considering this subject I shall adopt the arrangement which I have before explained of predisposition, disorder, and disease.

Chronic disorders, like acute disorders, admit of a radical cure; but chronic diseases admit of only a palliative mode of treatment generally.

Between acute and chronic affections there are many circumstances of close connexion and resemblance. For example, in each a state of simple excitement is common, congestion is common, and inflammation is still more common. Inflammation in fact makes up most cases of chronic disease; it is inflammation, modified only by the duration, producing the same effects as acute inflammation, and requiring to be treated on the same principles.

Acute or sub-acute inflammation is frequently becoming chronic, in consequence of our treatment or of a spontaneous change; and chronic inflammation often becomes acute or sub-acute: thus the three forms pass and repass into each other.

But the doctrines of congestion, simple excitement, and inflammation, would not explain all the pathology of chronic diseases; for some of them depend on certain depraved states of the solids not referrible to either of these conditions, as depositions in the substance of the lungs, dilatation of the vessels of the heart, &c. There occur also certain changes in the quality of the blood, as in chlorosis and in scurvy, and in the secretions from the blood, as in stone in the kidney or bladder, &c. This shows that we have been too hasty in excluding one part of pathology—namely, the humoral pathology.

If you be called to a case of chronic affection, you will generally

find that there is some faulty organ in which either the disorder or disease commenced ; and the duty of the medical practitioner is to discover the organ and the kind of fault, and the object of treatment is to remove that fault.

The investigation of chronic affections requires to be preceded by physiological anatomy ; physiology and anatomy being taken in conjunction to explain the natural structure and healthy functions of the various parts.

The changes which mark disorders of the chronic as well as those of the acute and sub-acute kind are referrible to three heads, namely—

1. Changes on the external surface of the body.
2. Uneasy sensations externally or internally.
3. Impeded functions.

By cultivating pathological anatomy we arrive at a condition or conditions which explain the symptoms as well in chronic as in acute or sub-acute diseases ; and to this condition or these conditions I would apply the term pathological cause or causes of disorder or disease.

THE PREDISPOSING AND EXCITING OCCASIONS OF CHRONIC DISORDER AND DISEASE

may be classed under three heads ;—

1. Inherent occasions.
2. External occasions.
3. Errors of diet and other ingesta.

I. INHERENT OCCASIONS.

The first kind of these are—

1. Hereditary peculiarities, which may be either corporeal or mental ; and whether the one or the other they frequently predispose to, and even excite, disease.

1st. Peculiarities of formation, and the tendency to particular affections, are transmitted in families from one generation to another ; so that in one family you will see a peculiar form of the head prevail, predisposing to inflammation of the brain, madness, epilepsy, palsy, proplexy, and so forth : in a second family you will find a remarkable formation of the chest, leading to consumption : in a third family you will find a peculiarity of structure predisposing to disorders and diseases of the heart : and in a fourth an innate tendency to disorder or disease of the stomach, liver, and bowels. These hereditary corporeal peculi-

arities are sometimes connected with peculiar conditions of the nervous system, but more frequently of the capillary portion of the sanguiferous system. Some persons are generally torpid, not being easily excitable; others are generally irritable, easily prone to receive impressions. The peculiarity may consist in a comparative state of strength or weakness; thus there may be great muscular power combined with internal weakness, or internal strength with extreme muscular weakness. This is an interesting subject of inquiry; because from seeing the parts which are predisposed you may avoid the exciting agents, and prevent the threatened disorder or disease in other members of the same family. When apoplexy or consumption, for example, are threatened, you may ward them off; so that this knowledge is of vast importance in a preventive point of view.

2d. Independently of these, there are certain constitutions of mind which are very peculiar. In one family you will find but little irritability or sensibility prevails; so that each member may be compared to a lake sunk between two hills—the wind and the storm may pass over it and not ruffle its surface. In another family you will find a high degree of irritability and sensibility prevails; so that one of its members may be compared to a delicate tree planted on some mountain top—blown about by every breath of wind—bent before the slightest breeze, the rude blast tears it up by the roots, and it withers!

In speaking of the predisposition to acute and sub-acute affections, I mentioned certain ætal and sexual peculiarities which give a tendency to chronic affections also, but I need not here repeat the observations which I then made upon the subject; and the next kind of inherent occasions to which I shall advert are—

2. Acquired peculiarities, which also are either corporeal or mental.

1st. Previous attacks, especially those of an inflammatory nature, leave an acquired peculiarity or predisposition to disease; so that all the diseases which beset us from infancy to advanced life lay the foundation of other affections. The air we breathe, the climate we live in, the occupation we follow, and many other circumstances, predispose us to disorder and disease by attending to affect particular organs.

2d. Education has great influence upon the body by producing peculiar states of mind; and, independently of this, the situation in which a person is placed has great influence upon the body, predisposing it to various affections. No physician can practise in London without seeing the truth of this. In London most men have to make hard struggles; most men in fact come to London to have “golden hopes” either

ruined or realized ; and how often do we see a high degree of excitement produced by success, and that deep and melancholy depression which is too apt to be consequent upon failure ! It is important then in chronic affections to ascertain the state of the patient's mind, for anxiety is far more prevalent in London than in the country. In the country you see persons lounging about with their hands in 'their breeches' pockets, and with any thing but anxiety pictured in their countenances. In London, on the contrary, you see every body in a bustle, walking along the streets as quickly as possible. Each seems of vast importance to others as well as to himself ; and the mind acts upon the body and produces excitement, with the exception of the cases of persons who follow sedentary occupations. Sedentary habits produce considerable effects both on the mind and body ; they render the body torpid and depress the mind.

All the mental and bodily agents operate chiefly by exciting or depressing, and thus predisposing to some disease or other.

II. EXTERNAL OCCASIONS

are made up of the surrounding agents of nature, which are constantly operating upon us, and which are either common or peculiar ; and whether common or peculiar they may be arranged, according to their effects, under four heads : namely, 1. Depressants ; 2. Stimulants ; 3. Irritants ; 4. Interruptants.

III. ERRORS OF DIET AND OTHER INGESTA.

These, as occasions of chronic affections, relate in a great measure to our diet and drinks, which are influential by their quantity and by their quality. In civilized life the stomach keeps a daily festival ; it would be well that it should have its fasts. It would be well that the unruly subject, which is called the human stomach, should be restrained and subjected to a reasonable degree of discipline.

When the stomach is disordered by the quantity or the quality of the food, it operates on the human body in five different ways.

1. The first operation is direct on the stomach itself or intestines.

An indigestible meal, for instance, produces irritation felt about the stomach. If this irritation be in a low degree, it is called simple excitement ; if in a high degree, it amounts to inflammation, which is often chronic, and is then very insidious : and these two circumstances or conditions constitute a great number of chronic affections. The food

may not be digested in the stomach, but it may pass into the intestines, fermenting and corrupting there, and setting up an extensive irritation.

2. Errors of this kind invariably operate, indirectly, by what may be called particular sympathy.

Sympathy is a connexion pre-existing between one part and another, so that if an impression be made upon one part it is communicated to the other. Thus, in one individual, disorder of the stomach will produce a depressed state of the heart; in a second it will produce an excited state of the heart; in a third it will produce pain in the head; in a fourth pain in the chest; and in a fifth pain in some external part of the body. This I call particular sympathy. I do not know why disorder of the stomach should produce these various consequences in different individuals: all that I know is the plain fact, which can be readily proved. This connexion between the stomach and other parts appears to be attended with some change in the quantity, quality, or distribution, of the nervous fluid; the first effect of which is an injection of the capillary vessels, and from which in the next place arises inflammation. In speaking of gout, I remarked that it was only a small part of an extensive class of diseases referrible to particular sympathy.

3. Errors of diet and other ingesta operate by general sympathy.

You find individuals with disordered stomach in whom you can detect no other affected part: the pulse is not quick, there is no local pain, and there is only a furred tongue with indications of disorder about the stomach, and at length the characteristics of chronic inflammation of the stomach or other organs connected with digestion are produced.

4. These errors operate by the production of plethora, or an excessive quantity of blood.

Surrounded by the comforts of life, some individuals eat and drink largely; their bowels become torpid; they take little exercise; and hence they generate too much blood. The heart and vascular system are greatly over-distended, whence a vessel bursts in the head and the individual dies of apoplexy; or a vessel is ruptured about the lungs or bronchial linings, as in hæmoptœ; or you have a gush of blood from the mysentery or from the lining of the bowels. Sometimes you have only an over-distended state of the vessels; hence organic affections of the heart and large vessels, combined with a plethoric state of the system: the heart being not only over-distended by the increased

quantity of blood, but having its force and frequency of action also increased.

5. Errors of diet and drinks operate by changing the constitution of the blood itself.

In scurvy, and in chlorosis, which is an affection depending upon disorder of the stomach, liver, and bowels, the blood is changed in its constitution.

Disorder of the stomach, liver, and bowels, you will tell me, is a vague term; and so it is: hereafter I will explain more fully what I mean by it. I may just state now that what I mean is, that the lining of the stomach is in a state of irritation, that the liver is torpid and irregular in the distribution of bile, and that the colon is torpid or irregular in the discharge of fæces. This is the most common form of disorder in these parts. When this state exists, digestion is impaired, and pure blood is not made.

Sometimes the blood itself is changed in its constitution, and sometimes the secretions from the blood are changed.

If you draw blood in chlorosis, you will find that there is a deficiency of red particles. Here you have a distinct proof of a change in the blood.

Examples of a change in the secretions from the blood you have in stone in the kidney or in the bladder.

Trace these cases backward, and you will find they were invariably preceded by proofs of disorder of the stomach, liver, and bowels.

You see a child ruddy and healthy, living much in the open air in the country, and simply fed. This child is brought to London; it is living in a close atmosphere; its diet and clothing are neglected; it becomes pale and emaciated, and dies. On examination the lungs are found tuberculated, and the pleura in the same state. Circumstances which tend to break up the general strength very frequently either develop or occasion tubercles.

Independently of errors of diet and drinks, chronic affections are produced by other ingesta; by one especially, namely, physic. I believe that all practitioners who prescribe according to nosological principles often do very serious mischief. I have already pointed out the injury done by drastic purgatives and by antimonials when the stomach and intestines are irritable. The mischief of such poisons as these occurs again and again in chronic diseases. They often produce not only purging but inflammation of the lining membrane of the stomach and intestines. And these effects are produced not only by drastic

purgatives but by tonics, stomachics, and antispasmodics, so called. I should like to know why either of these medicines is directed. I want to know the agent which produces the affection and the exact condition produced, and being precise in particulars, I can be precise in the treatment of the affection. If a man cannot tell me why he prescribes either of these remedies, I presume that he does not understand the pathological condition on which the symptoms for which he prescribes depend. He may prescribe tonics for wind or for dyspepsia; he may prescribe according to systems which refer only to symptoms. The cause of this is his confused or inaccurate notion of the pathology, and the consequence is that he frequently does his patient great injury.

Physic, in this country, is as fatal as the plague in Asia: its operation is often less speedy, but its baneful and fatal effects are no less certain. Many cases, if traced backward, would be found to have consisted in their first stages merely of disorder, which was converted into disease by remedies employed internally, without a reference to the conditions on which the symptoms depended; to the state of the patient; and to the effects to be expected from the remedies employed. Nothing is more fatal than the idea that chronic diseases depend on mere weakness.

The circumstances which lead to acute, sub-acute, and chronic diseases then, are closely connected together; we have a world within us and a world without us. Our life seems to be a state of continual warfare between impressions made from without, and impressions made from within. Agents of several and different kinds are constantly operating upon us in various ways, and producing effects on those who are predisposed either hereditarily or acquiredly, which lead to disorder and disease—to disorder, if there be merely error in the movements of the solids, or in the distribution of the fluids; to disease, if there be organic change of structure.

In noticing particular chronic affections, I shall proceed as in acute and sub-acute diseases. Beginning with the brain and the nervous system, I shall consider the effects and influence of diseases of these parts upon other organs. I shall pass on then to affections of the throat and air-passages, lungs, pleura, heart, &c. In going over each part, I shall consider its particular and general bearing in the production of disorder and disease; and I hope thus to arrive at as much simplicity in the pathology of chronic, as in the pathology of acute and sub-acute, disease. At any rate it will be far more precise than those

absurd terms and practices which are used, taught, and sanctioned, in most of the schools and colleges of this country. And while on the one hand I fear no consequences to myself, on the other hand I have no hostile feeling towards any man, nor shall I say any thing which can fairly be considered as offensive to any individual whatever. I am here for the purpose of explaining to you the modern state of medicine; and freely and independently I will state and uphold what I know to be true; though it be against those principles and practices which I believe to be fallacious, albeit supported by high authority.

LECTURE XLIII.

PHYSIOLOGY OF THE NERVOUS SYSTEM.

BEFORE entering upon the consideration of the chronic affections of the brain, it may be as well to premise a few brief remarks respecting the physiology of the nervous system.

In considering diseases it is convenient to contemplate the various systems as differently or similarly affected; but in the human body, both physiologically and pathologically considered, we should not adhere to the consideration of one system only, but should also take into account the connexion of that system with other systems. The human body is made up, as it were, of different pieces of machinery, animated by a peculiar principle; each part performs separate functions, all which contribute to one end.

The nervous system is made up of the dura mater, the tunica arachnoides, and the pia mater; the cerebrum, or large brain; the cerebellum, or little brain; the medulla oblongata, and the medulla spinalis, with their continuous inverting membranes; the nervous plexuses and ganglia.

The cerebrum and cerebellum seem to be larger in man relatively to the size of the body, while the medulla oblongata seems to be larger in the lower animals than in man.

The medulla spinalis exists in man and in many other animals in conjunction with the cerebrum, the cerebellum, and the medulla oblongata; but the medulla spinalis has been found also in fœtuses in which the cerebrum, cerebellum, and medulla oblongata have been wanting. Therefore it seems to be a part separate from them, which is proved further by animals of the lower orders having a spinal cord without a brain.

The nervous plexuses and ganglia seem in a degree independent of the brain, as in some of the lower animals they are wanting; though in the more perfectly organized beings, they are existing conjointly.

The brain itself is made up of two different substances, arranged in convolutions; one grey, called the cineritious or cortical substance; the other white, called the medullary substance. All parts of the nervous system are made up of similar parts. The white part seems to originate

from the grey matter, which is always found at the origin of nerves and in the brain itself. The white substance is fibrous, as the substance of the nerves is fibrous. The brain seems to consist of a series of ganglia made up of the grey and white substances. This subject is very complicated, and it appears that we know but little about the functions of these parts.

The cerebrum, cerebellum, medulla oblongata, medulla spinalis, nerves, plexuses, and ganglia, all seem to perform different functions, and yet they all correspond to each other.

According to Flourens, a French physiologist, it will be found that in slicing the cerebrum the intellect is affected, while in slicing the cerebellum the motion will be affected; from which we may fairly draw the inference that the cerebrum is most connected with intellect, and the cerebellum with motion.

Impressibility is the capacity of conducting and receiving impressions.

The cerebrum and cerebellum are not impressible, for they may be sliced and pricked without contraction being produced; but they are the seat of sensibility. Perception and volition reside in the sensible, but not in the impressible parts.

The parts possessing impressibility are the nerves, the spinal cord, medulla oblongata, and corpora quadragemina. If a section be made between the corpora quadragemina and the origin of the nerves, no impression is felt below it.

When the cerebrum is diseased, the intellectual and sensitive faculties are disturbed. When the cerebral lobes are removed, the intellectual faculties are impaired, and sight and hearing are destroyed. When the cerebral lobe is taken away on one side, the animal no longer sees on the opposite side, although the iris preserves its mobility. When both lobes are taken away, the animal loses both sight and hearing. This is not the case with the cerebellum.

If the thalami nervorum opticornum be cut, the iris is not paralysed: if the superior corpora quadragemina be pricked, it contracts violently; if they be removed, it is dilated.

In the cerebrum all the sensations take a distinct form, and leave durable traces and recollections.

The destruction of certain parts produces peculiar effects: for example, if the thalami nervorum opticornum be disorganized, the upper extremities are paralysed; and when the corpora striata are disorganized, the lower limbs are paralysed. It appears also from Rostan's dissections, that the thalami nervorum opticornum are connected with the motion of the upper, and the corpora striata with that of the lower extremities.

A case has lately been published by two French authors, in which both the upper and lower extremities were affected, and both the optic thalami and the corpora striata were affected: this seems, as far as it goes, to prove Rostan's doctrine; but one of the great errors of philosophising is drawing general conclusions from a few particular cases. By observing the different effects of different lesions, or rather the different effects of similar lesions of different parts of the brain, we might arrive at a tolerably correct account of its physiology.

The structure of the cerebellum is laminated. It is the regulator of motion: the loss of mobility is in proportion to the loss of the cerebellum. When it is cut away in slices the removal of the first portions only produces a little weakness and a want of harmony of motion; the removal of the next slices produces a general agitation: the animal continues to see and hear, but its motions are inconsistent and hasty. The faculties of feeling, walking, &c., are thus lost by degrees; so that when the cerebellum is entirely removed, the faculty of exciting regular movements is entirely lost, although the senses of sight and hearing, and the will to act, remain; the animal loses only the power of contracting the voluntary muscles. Thus if the cerebrum be taken away, it falls into a state of sleep; if the cerebellum be removed, it is in a state like intoxication.

The integrity of the cerebellum seems necessary for progressive motion. Every severe wound of the cerebellum totally prevents progression, and most commonly, on the contrary, develops the action of retrogression. A duck from which a considerable portion of the cerebellum had been removed, could only swim backwards, and made no progressive motion for eight days.

The kind of matter removed is of considerable importance. If the cineritious substance be removed, the motion is not affected; if the medullary, it is destroyed.

The medulla oblongata is connected with intellect, sensibility, and motion; pressure upon it renders an animal not only stupid, but torpid.

The brain and nervous system are evidently connected with four things:—

1. Intellect, or mind.
2. Sensation.
3. Irritability.
4. Secretion.

1. A blow received on the head frequently disturbs the intellect.

I have known a person's character completely changed by a blow upon the head: a portion of the brain being depressed, or inflammation

being excited in the membranes of the brain, or in the brain itself. Extravasation on the surface of the brain, or in its substance, will disturb the intellect, as will also irregular circulation; the quantity of blood circulating in it being too great or too deficient. In all probability the brain is the organ through which the intellect is operating.

2. That the brain is connected with sensation is evident; for if a clot of blood be effused into the substance of the brain, sensation is destroyed, though the nerves still remain entire.

3. The brain and nerves are also connected with motion. If the posterior root of a nerve arising from the medulla spinalis be cut through, the sensation of the part which that nerve supplies is destroyed; but if the anterior root be cut through, the motion of the part is destroyed; and the properties of the anterior and posterior portions of the cord correspond to those of the nervous roots, which shows a connexion not only with sensation, but with motion. That this connexion existed was observed by Galen and by Haller. Mr. Charles Bell and M. Magendie have adverted more clearly to the subject with respect to the spinal marrow.

The nerves seem to convey impressions to the brain, and something from the brain.

A nerve being cut through or tied, the parts which it supplies below the ligature or division are deprived of sensation. We see also, in reference to motion, that the nerves seem to convey something from the brain. A nerve being cut through or tied, there is no motion in the muscle which it supplies. The person wills to move the part, but cannot accomplish it. Irritability, therefore, or the power of contraction, is connected with the nervous system.

If a nerve be pricked, contraction of the muscles which it supplies takes place, and pain in the course of the nerve occurs.

If two ligatures be placed on a portion of a nerve, and the included portion be pricked, there is no contraction nor pain. Irritability, then, is not a simple principle, but an ultimate result.

The nerves consist of numerous fibres which, at their origin or termination, are connected with cineritious matter. They possess impressibility but not sensibility.

Each particular nerve performs a particular function, of which you have an example in the nerves of the face. There are two nerves ramifying on the face; the portio dura, and branches of the fifth pair. The branches of the portio dura are connected with respiration, and the branches of the fifth pair with mastication. We draw in the breath by the aid of the portio dura; and if that nerve be cut through, this power

is lost, so far as it is influenced by this nerve, yet the power of mastication will remain. Again, if the branches of the fifth pair were divided, the power of mastication would be lost.

Dr. Parry has noticed this in his *Elements of Pathology*; but Mr. Charles Bell, whose observations you will find in the *Philosophical Transactions*, has shown it more distinctly than any other physiologist.

The same nerves may perform different functions. According to Legallois, if the eighth pair of nerves be divided at their origin, respiration is arrested; but if they be divided in the neck, digestion is stopped.

4. More familiar examples of the connexion between the brain, and nervous system, and the secretions, you have in sapid bodies in the mouth, which immediately increase the secretion of saliva, and in an onion applied near the eyes, by which the flow of tears is considerably augmented.

There seem, then, to be two kinds of sensibility in the human body; one, in which it exists with sensation; and the other in which it is without sensation. Sensation is not the same thing as sensibility, but sensation is the result of sensibility or impressibility; which is the capacity of receiving and conducting sensations.

All the parts of the body which receive nerves from the medulla oblongata and medulla spinalis, have not only sensibility, but sensation.

All the parts supplied with nerves which originate from the thoracic and abdominal plexuses, and ganglia, are not in their healthy state possessed of sensation. Thus we are unconscious of the contractions of the heart, and we are unconscious also of the peristaltic motion of the intestines. Impressions of these actions are not conveyed to the brain.

Why sensation should in the one case exist and not in the other, we cannot explain; and all that we can say about it is, that it is a law impressed on matter by the Deity.

With regard to plexuses and ganglia: a plexus is a net-work of nerves connected together, and a ganglion is the swelling of a nerve.

Probably plexuses perform the office of concentrating power, producing a union of force in some degree. Ganglia probably perform the office of little brains; they belong to the nerves which are connected with the sensibility. In all probability a careful examination of, and accurate experiments on, the lower animals, would throw some further light upon the physiology of the nervous system, for at present it must be acknowledged that we know but little about it.

It would seem that the nerves convey some subtle sort of fluid—and many reasons contribute to this opinion.

Motion and rest affect the nervous system remarkably. When the body is fatigued by motion the mind also is fatigued, sensation is diminished, irritability is diminished, and the secretions are diminished: and they may be again renewed by rest; which seems as if the stock of something were exhausted by motion, which is again replenished by rest, in which state it is not carried off so fast as it is produced.

The nervous system is closely connected with the vascular system. You may affect the nervous sensibility of a part by the application of cold, or by the application of heat; and in each case you have a corresponding change of circulation.

The probability is that the capillary system maintains a relation between its calibre and the red particles of the blood. When the animal heat is greatly diminished or augmented, this relation seems to be lost. We cannot account for the influence of the nervous system, except by reference to galvanism or electricity. There seems to be a certain kind and quantity of blood necessary to support the functions of the nervous system. If there be a deficiency of circulation in the brain, the functions of the nervous system are affected. If the kind of blood be changed, the functions of the nervous system are also changed. This is especially the case with black blood. Thus when a sticky varnish is adhering to the tongue and bronchia, preventing the decarbonization of the blood as it passes through the lungs, all the functions are affected. This seems to show that whatever the nervous fluid may be, it is probably an elaboration from arterial blood coming in contact with nervous matter. This does not seem to be a property or a principle, but the result of some complicated process. The words "property" and "principle" are frequently used in physiological works. On this subject I agree in opinion with Dr. Paley, whose observations on the subject I may be excused for introducing here, and whose work on *Natural Theology* I recommend you to read, as it contains some very valuable matter and many interesting physiological remarks.

"The philosopher beholds with astonishment the production of things around him. Unconscious particles of matter take their stations and severally range themselves in an order, so as to become collectively plants or animals, that is, organized bodies, with parts bearing strict and evident relation to one another and to the utility of the whole: and it should seem that these particles could not move in any other way than as they do; for they testify not the smallest sign of choice or liberty or discretion. There may be particular intelligent beings guiding

these motions in each case : or they may be the result of trains of mechanical dispositions, fixed beforehand by an intelligent appointment and kept in action by a power at the centre. But in either case there must be an intelligence. The minds of most men are fond of what they call a 'principle,' and of the appearance of simplicity in accounting for phenomena. Yet this principle, this simplicity, resides merely in the name ; which name, after all, comprises, perhaps, under it, a diversified, multifarious, or progressive operation, distinguishable into parts. The power in organized bodies, of producing bodies like themselves, is one of these principles. Give a philosopher this and he can get on. But he does not reflect what this mode of production, this principle (if such he choose to call it), requires ; how much it presupposes ; what an apparatus of instruments, some of which are strictly mechanical, is necessary to its success ; what a train it includes of operations and changes, one succeeding to another, one relating to another, one ministering to to another ; all advancing by intermediate, and frequently by sensible, steps to their ultimate result ! Yet, because the whole of this complicated action is wrapped up in a single term generation, we are to set it down as an elementary principle, and to suppose that when we have resolved the things which we see into this principle, we have sufficiently accounted for their origin, without the necessity of a designing, intelligent, Creator. The truth is, generation is not a principle but a process. We might as well call the casting of metals a principle ; we might, so far as appears to me, as well call spinning and weaving principles ; and then referring the texture of cloths, the fabric of muslins and calicoes, the patterns of diapers and damasks, to these, as principles, pretend to dispense with intention, thought, and contrivance, on the part of the artist ; or to dispense, indeed, with the necessity of any artist at all, either in the manufacturing of the article, or in the fabrication of the machinery by which the manufacture is carried on."

LECTURE XLIV.

PREDISPOSING AND EXCITING OCCASIONS OF CHRONIC DISORDER AND DISEASE OF THE NERVOUS SYSTEM.

I SHALL now pass on to the consideration of the predisposing and exciting occasions of chronic affections of the nervous system ; and I am led again to speak of them because they are very important in a preventive point of view.

PREDISPOSITION TO CHRONIC AFFECTIONS OF THE NERVOUS SYSTEM.

One of the most powerful predisposing occasions of affections of the nervous system is—

1. Hereditary peculiarity ; and perhaps no part is so often predisposed hereditarily as the nervous system.

In some individuals it is apparent in the head or neck ; in others, probably, it is evinced in minutiae of structure not yet discovered, and which are to be sought for in the cultivation of human comparative anatomy, which is far too much neglected in the present day. Some individuals are strikingly marked by nature ; for instance, by a short neck, a large head, and a full cheek, which evidently show a tendency to affections of the nervous system. Some have a peculiar turgidity of the vessels of the face, and especially of the forehead ; this is particularly shown on taking a stimulant ; it is sometimes seen after the fortieth year.

It frequently happens that in the same families, some of the members have small heads, pale faces, and spare forms. These are subject to disorder of the stomach, liver, and bowels ; and these affections of the abdominal viscera are connected with the head, and these persons are liable to sick head-ache, &c.

Hence the size or shape of the head alone is not to be depended upon.

Individuals who have wry-mouths when they laugh, are predisposed to affections of the brain. Dr. Paley observes that “it is the most dif-

ficult thing that can be, to get a wig made even ; yet how seldom is the face awry !”

When individuals wink one eyelid more than the other, it often betokens predisposition to head affections.

Those who have a catch in the face, especially when excited : a slight catch in the cheek, with a tremulous motion about the eyes when looking intently upon an object, are also predisposed to affections of the head ; and so are almost all persons who stammer.

Almost all persons who squint ; almost all persons who have that peculiarity of temper, manner, and habit which it is impossible to explain distinctly by words, but which cannot escape observation, are prone to affections of the head.

Persons who are very torpid, or very excitable, as those of a nervous temperament, have a similar predisposition. There are some persons who are calm and even indifferent under ordinary circumstances, who display an amazing energy both of body and mind when excited to action. This was the case with Lord Nelson, King William the Third, &c. Some apparently torpid persons become tremulously agitated on slight occasions.

Almost all persons are predisposed to affections of the head who have remarkably speculative manners. Such a man, for example, if he were a physician, would not be satisfied with careful observation and sober experience, but he would always have some gimcrack or crotchet or other in his head ; he would scheme, and attempt, perhaps, to cure all diseases by one remedy. If he were a merchant, he would not be content with sober perseverance to plod on in the sure road to wealth ; but he would speculate, and probably ruin himself. There are some men who will speculate from day to day, and who never seem to be made wiser by experience, nor to be altered by education ; they never become reasonable, practical men.

All individuals, as far as I have observed, who are subject to extremely violent fits of passion, are generally predisposed to affections of the brain.

Children who are either more dull, or who are more bright in intellect than others, are predisposed to affections of the head. It is important to remember this ; for if such children have not their diet and their clothing properly regulated, and if they be allowed to sit up late at night, or if they have not a sufficient quantity of sleep, they are almost sure to have some disease of the head. We see four or five children in one family dying, one after another, of what is called hydrocephalus in-

ternus, from neglecting the prevention of the obvious predisposing and exciting occasions.

When this tendency is developed it assumes different characters; and this probably depends upon the affection being placed in different parts. It is only modified by age. Thus in the young, chorea and epilepsy prevail; in the middle-aged, head-aches, chronic inflammation, mania, &c.; and in the decline of life, apoplexy and palsy are more common. Some predisposition to affections of the nervous system are acquired.

2. This predisposition is also acquired. Previous attacks of disease of the head predispose to a recurrence of them.

If an individual have an attack of inflammation of the brain, he is liable to head-ache from errors in diet or drink or from mental excitement. Probably this is connected with some change or peculiarity in the capillary vessels. Probably hereditary predisposition often consists merely in some peculiarity of the capillary vessels, which seems to be evidenced in cases of what is called strumous ophthalmia.

Blows on the head often predispose very powerfully to affections of the brain. I advise you never to neglect a slight blow on the head, for again and again I have seen fatal effects occurring from them. John Hunter remarks, that slight blows on the head often produce injury to the membranes of the brain or to the brain itself. A slight blow having been received upon the head, as soon as the person has recovered from the shock, abstract a little blood, open the bowels, and adopt a spare diet.

A full diet very often predisposes to affections of the head, and bad diet sometimes has the same effect; but if any one thing predispose to these affections more than another (with the exception, perhaps, of mental excitement) it is the use of ardent spirits or wine or strong ale. Alcohol increases the heart's action and affects the brain specifically; hence affections of the head are much more prevalent among those who drink largely, than among those who are abstemious; and a large majority of the persons liable to apoplexy, or palsy, are more or less addicted to drinking spirits.

Certain medicines give a tendency to head affections, such as narcotics and tonics; especially those which are given under the form of, or which contain, tinctures.

The stomach, when disordered or diseased, predisposes powerfully to affections of the head. It is connected very often with those earthy depositions in the blood-vessels within the head, which produce apoplectic attacks in the later periods of life.

REMOTE OCCASIONS OF CHRONIC AFFECTIONS OF THE NERVOUS SYSTEM.

1. Repletion, or plethora, is a common occasion, and, as I have already observed, it may be either local or general. If there be general repletion, and the brain be predisposed either hereditarily, or acquiredly, it will probably become the seat of some disorder or disease. Sometimes disease arises from deficient circulation in the brain; sometimes from mental anxiety; but still more frequently from wine, or ardent spirits. You see children's heads affected either from plethora, or from deficient circulation. You see, for instance, a child pale and emaciated, threatened with an affection of the head. There is some connexion between the stomach, liver, bowels, and head, by which the brain is gorged with blood, while in other parts of the body there is a deficiency. This frequently arises from the use of tea, particularly from children drinking tea at an early period of life. It very often arises among children from want of sleep and from keeping late hours. These affections of the head in children often go on for many weeks very insidiously, and at length wind up either by an attack of inflammation, or by an attack of congestion of the brain.

After the fortieth year affections of the head are very common both in men and in women: they are very apt to arise from—

2. High mental excitement, as in gamblers.

I knew a man who was a gambler, by which his mind was excited and his brain gorged with blood, after which a collapse occurred during which he had instinctive desire for stimulants. In the same way politicians become affected, and lawyers. But they seldom occur in mathematicians, who are generally men of tranquil mind. Literary men are liable to an affection of the head if they be excited, for the stimulus produces a local plethora about the brain; during deep thinking there is an accumulation of heat and blood about the head; the face is flushed, and the eyes are brighter than natural.

3. But I repeat, that no occasion is so common as the use of ardent spirits, wine, and strong fermented liquors; and I would almost say that nine cases out of ten might be traced to the use of one or other of them. If the mind be disturbed, and the individual take to drinking, the consequence is that chronic inflammation of the brain arises.

4. Excess of venery is often connected with affections of the head; the excitement is so great that fatal effects may arise from the high stimulus gorging the brain with blood. In some instances a blood-

vessel has burst during the orgasm. Attila, the celebrated king of the Huns, is said to have died in the act from the rupture of a blood-vessel.

5. The solitary vice of onanism produces affections of the head.

I know a boy seventeen or eighteen years old, who went at the age of ten to a school where this vice was very common, and he became the subject of it; and from being a fine active and clever boy, he became a perfect idiot. His eyes became prominent; his pupils dilated; he had pains in his head, and down the course of the spine; loss of memory; a fatuous expression of the countenance; a tottering gait, &c. I think I should know a person in the street who is addicted to this vice in excess, by merely walking behind him, from his peculiar gait.

6. Mercury is a very common occasion, producing affections of the brain and nervous system; partly on the principles of excitement, and partly as operating on the blood.

Very few water-gilders can follow their business after the fortieth year. They are constantly exposed to the fumes of quicksilver, or to quicksilver acted upon by nitric acid; they become first nervous, then tremulous, and then paralytic. How frequently this occurs; and yet nobody has troubled himself to protect these persons from such effects, as might easily be done.

Scarpa remarks, that individuals who have had secondary symptoms are very liable to affections of the arterics. This arose from the abuse of mercury, from the courses of it which we now know to be unnecessary.

Large and repeated doses of mercury given in chronic diseases when the skin is cool, often predispose to, and even excite, serious affections of the head. When the heat on the surface of the body is high and the skin is dry, you may give mercury boldly, if the case indicate the necessity of its use; but when the circulation is tranquil and the skin cool, it has entirely different effects, and requires great care in its administration.

7. Powerful exercise often induces affections of the head.

I knew a poor man who was constantly running from one part of the town to another, and neglected his meals. He was always in exercise, and his head being predisposed, was very seriously affected. And thus many affections of the brain, heart, or lungs, may often be found to have arisen from the action of the heart being increased, and the heat collecting about the head.

8. Sometimes depressing agents will produce affections of the head ; for instance, cold.

Old individuals and children have little power of retaining the animal heat, and have affections of the head from their great liability to be chilled. Old persons when chilled often fall down suddenly in a state of apoplexy.

9. Sedentary persons are liable to affections of the head, because the heart's action is disturbed, especially if they live in a bad atmosphere, and hang down the head: the blood is interrupted in its return from the head, and a chronic congestion is the consequence. This is common with disordered skin in pale and emaciated subjects.

10. The stomach, liver, and bowels, operate upon the head.

There seems to be, as I have before observed, some direct consent between the stomach, liver, bowels, and head ; so that in one person the stomach shall be the seat of disorder ; in another, the liver ; and in a third, the bowels ; yet each of these individuals shall complain of the head. This is not easily to be accounted for. In children subject to epilepsy any meat which disturbs the stomach brings on an attack.

In some cases the pulse is entirely tranquil ; therefore we cannot account for it by a reference to irregularity of the circulation. I call it, therefore, particular sympathy. We might speculate about it in various ways, but we should not be likely to arrive at the truth.

In many cases, however, of these affections of the stomach, liver, and bowels, it is externally evident that there is an unequal distribution of the animal heat. Heat is a component part of the galvanic fluid, and if the nervous fluid be the same thing, heat may be connected with it. Many persons are sensible of an unequal quantity of heat in particular parts, as at the end of the nose, about the eyes, &c. This is followed by injection of the capillary vessels.

Affections of the bowels may also operate in another way ; by an overloaded colon.

Two intelligent friends of mine have made dissections, in which they have found the abdominal aorta contracted, from an overloaded colon, and the thoracic portion distended.

Those persons who are subject to an overloaded colon, frequently complain of coldness of the feet, of pain in the head, of pain in the chest, and of palpitation of the heart. I think an overloaded colon is often connected with organic affections of the heart, and especially with affections about the head.

All the occasions, except the overloaded colon, which I have at

present mentioned, are either depressants, stimulants, or irritants; but sometimes—

11. Interruptants bring on affections of the head.

Any thing too tight about the neck will produce this effect. Baron Larrey mentions that the men in a certain regiment frequently fell down apoplectic from wearing too tight a cravat, for the purpose of making the face look full. I have seen a handkerchief worn too tight about the neck produce similar effects. Tumours about the neck, enlargement of the thyroid gland, &c. have a similar effect.

Frequently in females the respiration, and consequently the heart's action and the head, are affected by wearing too tight stays; so that organic affections of the head, lungs, or heart, are produced. Persons labouring under chronic bronchitis, or any affection which impedes the circulation through the lungs, are exceedingly liable to affections of the head, from the return of the blood from the brain being impeded. Sometimes the left ventricle propels the blood towards the head in larger quantity than natural.

12. Blows sometimes very insidiously produce affections of the brain by compressing a portion of bone upon it.

Sometimes affections of the head arise from inflammation of the membranes of the brain below the part where the blow was received, and sometimes from inflammation of the brain itself.

A literary gentleman, when a young man, had a fall from his horse. He was the subject of what is called dyspepsia, and having consulted physicians in London, in Scotland, and on the continent, he had received no relief. His mind was disordered; he became hypochondriac, and then insane. At this time he fell under the care of the physician who attended him after the fall from his horse, and he thought the insanity arose from that accident. The patient died of apoplexy between forty and fifty years of age. On examination after death the dura mater, the pia mater, and the tunica arachnoides, were inflamed, and the inflammation commenced opposite the place where the external injury was received.

Frequently the cause of what is called dyspepsia is seated in the head. Digestion, as I shall afterwards show you, is a very complicated process, all or any part of which may be deranged.

Another very insidious affection is chronic inflammation seated in the internal ear. After badly managed cases of scarlet fever, or after severe cases under the best management, or after small-pox in strumous subjects, from having slight inflammation of the throat, which extends along the Eustachian tube, the internal ear is affected. The inflamma-

tion of the throat subsides, and the pain of the ear subsides except occasionally. At length pus is discharged from the ear: this goes on insidiously till there is pain in the head, torpor, and the person dies. On *post-mortem* examination you will find that ulceration has gone on in the internal ear, affecting the petrous portion of the temporal bone, the membranes of the brain, and the brain itself. In these cases a strict regulation of the diet will be of great importance. If the ulceration penetrate the petrous portion of the temporal bone, as far as I have observed, the case is invariably fatal.

Most affections of the brain may be referred to three pathological conditions, namely—

1. Simple turgescence; either venous, or arterial, or both.
2. Chronic inflammation; of the substance of the brain itself, or of the membranes of the brain. The first leads to a softening of the brain, so that it becomes pulpy like custard pudding, winding up with an attack resembling acute inflammation of the brain; or to apoplexy; or to palsy; very often, like chronic inflammation of the membranes, producing and ending in effusion between the membranes or into the ventricles of the brain.
3. Primary organic diseases; and these are tumours, vesicles, or ossifications.

LECTURE XLV.

WARNINGS, SYMPTOMS, AND TREATMENT OF APOPLEXY.

I SHALL next consider certain chronic affections of the head, especially what is commonly called apoplexy; beginning with a few general remarks on the tendency to that and similar affections, which is often very distinctly marked.

PREMONITORY SYMPTOMS OF APOPLEXY.

Apoplexy may be regarded sometimes as an acute or sub-acute, sometimes as a chronic, disease; but most frequently you find it chronic in its commencement and acute in its close: for you will find on tracing the history backwards that, in a large majority of cases, apoplexy is preceded either by turgescence or by chronic inflammation of the vessels of the head.

Apoplexy is more common in adults, especially after the age of forty, than in children; still, however, according to my observation, it is by no means uncommon in children; for in reality many cases of convulsions in childhood are instances of apoplexy.

With regard to adults, three subjects are liable to apoplexy.

In the first place adults who are pale and spare; not in a state of general, but of local, plethora: having an over-fulness of blood about the head, and a deficiency of blood in the other parts of the body.

The two other subjects labour under general plethora. In the one the fibre is lax; in the other the fibre is firm.

Apoplexy in general is preceded by distinct warnings; and these circumstances are like the gathering clouds threatening the thunder storm, which at length suddenly and unexpectedly comes on.

These premonitory indications are attended either by turgescence or by chronic inflammation. I pointed out to you formerly that there are different states of excitement. Sometimes what I call general simple excitement occurs; a state in which the circulation is more rapid than natural, and the heat higher than natural in every part of the body,

though in no part are there evidences of inflammation. There is a chronic state of the same kind.

In some persons there is what the Greeks called ‘πληθωρα,’ or what we call repletion; and in this state, if the brain be predisposed, the mischief will fall there: if the lungs be predisposed, the mischief will fall there, in the form of hæmoptœ: in others it will fall on the liver or on the lining membrane of the bowels, if those parts be predisposed.

Another class of persons have distinct signs of over-fulness of the head alone; there is an irregularity of circulation, a sort of *error loci*. Turgescence, then, may be said to be either general, or local. This state of chronic plethora, whether it be local or general, passes by insensible degrees into inflammation, though it is different from inflammation, not being attended by those effects of inflammation which I formerly pointed out as characteristic of that state. It is a different state, yet so verging towards inflammation as often to pass into it. This plethora is exceedingly common, and is most frequently maintained by errors of diet and drink, and often by errors of drink alone, especially by the use of ardent spirits in those persons who are predisposed. Ardent spirits, I have already stated, operate specifically upon the brain, and this any person may observe in himself. You often see drunkards who are spare and have bad appetites, constantly complaining of the head till they are carried off by apoplexy.

I have already pointed out the necessity of carrying to the bedside of a patient your anatomical and physiological knowledge. Three things are to be attended to; remembering to refer the symptoms to the condition or conditions upon which they depend:

1. Certain changes on the body externally.
2. Uneasy sensations.
3. Impeded functions.

To these three heads all the symptoms may be referred.

1. With regard to the external changes which indicate an approach or threatening of apoplexy, the most remarkable is a change of countenance; and if you make the attempt you will find that it is difficult to analyze this change. Sometimes it consists in an eye brighter and more glassy than natural; sometimes in an eye duller than natural; sometimes in a countenance more dejected, sometimes in a countenance more animated, than natural; sometimes it consists in a pupil more contracted than natural, sometimes in a pupil more dilated than natural, or diverted from the centre; sometimes it consists in a dropping of the upper eyelids; sometimes of a slight depression of the upper lid and a

slight dropping of the lower lid, generally of one eye alone ; sometimes of a squint : more generally it consists in a bloated expression in the face and a staring prominent eye. I meet many such individuals as I walk in the street, especially such as eat and drink largely. If they be of firm fibre they may go on for many years, but if they are of lax fibre the attack will generally come on sooner. Sometimes one spot on the face is paler than the rest, and this is generally attended by a feeling of stiffness or numbness in the part. Sometimes there is a quivering motion of the muscles of the face.

2. The uneasy sensations are also very various. Sometimes the patient complains of fulness within the head ; sometimes of tightness ; sometimes of throbbing ; sometimes of a creeping sensation within the head ; very often of aching in the head ; often of pain, which in some cases is remittent ; in other cases is continued, but when continued is liable to exacerbation ; in some cases is mild ; in others intermediate ; in others extreme. Sometimes the face undergoes a change at the same time : women are very liable to it at that period of life which they term "the change."

I was consulted by a lady, whom I desired to be very careful with regard to her diet and to the state of her bowels, and if she had any pain in the head, not to neglect it,—not to suffer it to go on for a single day. She had pain in her head, which she allowed to go on day after day, disregarding my advice. In two or three weeks she came to town, and I saw her. She was a lady of considerable mental power. When in health, she looked, spoke, and moved, rapidly, and all her actions indicated great activity of mind and body : but now the contrast was most remarkable. She had a downcast look ; one eyelid dropped down lower than the other ; there was a preternatural expression of melancholy in her countenance ; her mode of speech was drawling and slow ; and her motions were slow. She was bled, purged, and starved, and all the symptoms rapidly subsided. In a few days, or weeks, at most, an attack of apoplexy would probably have come on.

A very common and most alarming precursor of apoplexy is giddiness. Giddiness sometimes occurs in incipient fever, and gives way to absolute rest, purging, and a spare diet. Symptoms of affections of the head often occur in incipient fever, and if the patient persists in going about in that state, he will, in many cases, rapidly die of apoplexy : he will have, perhaps, congestion of the brain, and die within twenty-four hours.

I saw a gentleman labouring under incipient fever : he was a friend of one of my pupils, who requested me to see him. He continued to

go about in this state for several days : he suddenly fell in a fit of apoplexy, and died within twenty-four hours.

Sometimes there are wandering pains in the extremities, sometimes there is a confused feeling of the head, sometimes a sense of numbness or weight in the head, preceding apoplexy. Sometimes it is preceded by stiffness in the face or neck ; sometimes by general uneasiness, as extreme irritability ; sometimes by *tic douloureux*.

3. In inquiring into the impeded functions, you should contrast the healthy functions with the morbid symptoms. Preceding an attack of apoplexy, the patient often goes about with an expression of profound melancholy, complaining of obscure pains in the head. There is generally oppression and a diminution of activity. Sometimes the person has an activity of mind foreign to his natural character. Sometimes both these states occur in the same individual ; first a depression of the intellect, then an excited state of it. Sometimes apoplexy is preceded by a congestive state, sometimes by an excitive state : you have a cold skin and a slow pulse in the beginning, and then a skin warmer than natural, with a rapid circulation and an excited state of the nervous system.

I knew a gentleman in whom these states were very apparent. At first he was pale, dejected in spirits, hanging down his head ; he had wandering pains in different parts of the body, and seldom spoke to any body ; after this he became bustling and active. He was naturally a proud, cold, reserved man ; now he talked rapidly, and spoke to every body. He first had an attack of apoplexy, which was removed, and then he became the subject of madness. For some time he had complained of his head and of obscure pain in the region of the liver, and his stomach was remarkably disturbed.

In many primary affections of the head, the stomach is so much disturbed in the first instance as to appear to be the primary disease ; but by tracing the case backward you will find out whether the brain is the source of the affection.

All the cases of impotency which I have seen have been attended by marked symptoms of affection of the brain or of the spinal cord. An opposite state also is connected with these diseases : sometimes there is a lasciviousness of mind and a physical power of gratifying it. This is more frequent in men than in women : I have seen it especially in old men. This state threatens persons with apoplexy.

Among the changes in the mind, the most remarkable refers to the memory : it is the function which generally first suffers, if such an expression may be applied to the mind. Very often there is extreme

nervousness. 'Nervous' and 'bilious' are terms very frequently made use of, without distinct meanings being attached to them.

I saw a lady who had long been distinctly threatened with apoplexy. A medical man advised stimulants, and treated her case under the idea that it was nervous weakness. She became exceedingly nervous, so as to be alarmed at the opening of a door. A state of excitement had for some time existed, and then came threatenings of apoplexy : confusion in the head ; dimness of sight ; and at length bright-coloured objects seemed to pass before her eyes like a kaleidoscope ; her pulse also was oppressed. The attack was warded off by bleeding.

Be not then misled by names, but endeavour to investigate the symptoms, and to refer them to the conditions on which they depend.

Another change sometimes takes place—a change with regard to sleep. Sometimes there is an excess of sleep, not only at night but in the day. The person sleeps longer than natural ; or he sleeps sounder than natural ; or snorts, moans, dreams, and tosses himself about in the bed ; or falls asleep in the day at times when he was accustomed to be awake. Sometimes the patient is preternaturally watchful, and passes night after night without any, or with but little sleep ; and that sleep, if any, is disturbed.

Other changes occur in the external senses, as in the sight ; for instance, intolerance of light, double vision, bright sparks, &c. What is called weakness of sight is often the forerunner of apoplexy : it passes on sometimes till it ultimately terminates in what is called amaurosis ; and I believe that many cases of amaurosis and of what is called weakness of the sight depend upon congestion in the brain which by proper treatment, may frequently be removed. Sometimes a change occurs in the sense of hearing : sometimes it is deafness ; sometimes the hearing is very dull, or very acute ; sometimes the patient hears a whizzing or a clicking noise.

I saw a lady the other day who had consulted an aurist on account of deafness. The vessels about her head were ready to burst, and she was distinctly threatened with apoplexy. Now you should never look at a single organ of the body and neglect others. Nothing is so absurd as the present division of the practice of medicine ; for no man should practice, or can successfully practice, a part of this profession, unless he attend to the whole. Nevertheless, a man who studies all parts of the subject may with great benefit pay peculiar attention to one part, as the performance of operations, which depend for their success upon a delicacy of hand, is best acquired by frequent practice.

Sometimes the sensibility to touch is increased or diminished.

In some cases the taste is remarkably changed : it is perverted, or unusually acute or obtuse.

I now occasionally see a lady who has chronic inflammation of the brain, and her taste is remarkably changed. She said to me a short time since, "What is the reason, doctor, that I cannot taste the difference between tripe and a beef-steak?"

Other changes also take place ; wandering pains, for instance, occur in some external part. When a patient complains of wandering pains, you will in many cases find the origin of them in the brain or in the spinal cord ; and under these circumstances you should be very careful, both in the way of prevention and prognosis. For a long time these pains go on without any external swelling about the joints. Sometimes inflammation does take place, so that the disease puts on the rheumatic or gouty character. Some of these cases strictly deserve the name, which they have obtained, of rheumatic palsy.

Cramps sometimes occur in the arms and legs night after night, and the cause will often be found in the head.

Sometimes the patient feels as if his tongue were larger than natural, preventing free articulation, and causing a thick mumbling speech ; sometimes he feels a fulness about the root of the tongue and the fauces. Sometimes there is a slight affection, tingling, numbness, weakness, and then paralysis, of some small muscle in a remote part of the body ; as a slight dropping of one eyelid, or a slight twitching of the mouth, seen only when the patient smiles ; sometimes a slight spasm, startling, or twitching, of some other muscle.

I knew a man of strong intellect who, for sixteen or eighteen years, had a slight twitch about the face when he was excited. At length one night when he was in bed he had an attack of palsy.

Whenever you see a slight twitch about the muscles of the face, you may be assured that there is a predilection to apoplexy, or to palsy which is a modification of the same disease. These attacks of palsy are generally very gradual. Sometimes the bowels are unusually torpid ; sometimes unusually lax. Sometimes the sphincters, especially of the bladder, are either contracted or relaxed.

SYMPTOMS OF CHRONIC TURGESCEENCE OF THE BRAIN.

Systematic writers define apoplexy to be "an abolition or suspension of motion and sensation, the action of the heart and arteries remaining."

Supposing that this mere enumeration of symptoms without reference to condition could be called a definition, it is deficient, as not cor-

rectly expressing even the external symptoms. Sometimes there is only a diminution, sometimes an abolition, of sensation. Sometimes a patient is suddenly seized with vomiting, confusion in the head, and generally with the sensation of giddiness and universal weakness. These symptoms sometimes disappear after a time; the patient, afterwards, for instance, complaining of an obscure uneasiness in the head, and having an alarmed expression of the countenance. When you see a patient in this state be on your guard; for unless you abstract blood, the attack may return and destroy the patient. Sometimes the symptoms continue, or become progressively more violent; for instance, you find the patient is insensible, in a state of heaviness: you cannot, without rousing him, get a distinct answer; the respiration is oppressed, and the skin cool, or perhaps about the natural temperature. Sometimes the patient lies perfectly still and powerless, and very often has a labouring pulse. In this state he may die; or he may recover. He dies if a blood-vessel have given way; he recovers if the vessels be entire, and if he be properly treated.

Two opposite states of the circulation usher in the attack of apoplexy.

1. Sometimes congestive symptoms precede the attack—a few days, or only a few hours.
2. Sometimes excitive symptoms precede the attack—a few days, or only a few hours.

A lady who consulted me was chilled on going out one day in the winter. She was pale, her skin was cool, and she complained of obscure pain in the head. After being in this state for two or three days she had an attack of apoplexy. When I was sent for to her she was dying; and after death, in the centre of the head was found a clot of blood. The attack was for two or three days preceded by distinct symptoms of congestive fever.

I saw an East India director who, by taking a long walk on a hot day, produced excitement, which continued for a few hours, after which he had attack of apoplexy. He was saved by copious blood-letting.

There is a close connexion between apoplexy and the doctrine of fever, considering it either as a chronic or as an acute affection. Excitive apoplexy is an acute inflammation; and blood drawn in this state is highly inflammatory. Apoplexy has also a close connexion with the state of the heart's action. In congestive apoplexy the heart's action is diminished; in excitive apoplexy it is greatly increased. And yet under the sweeping term of apoplexy, as used by systematic writers, one mode only of treatment is recommended; whereas it is

evident that different treatment ought to be adopted according to circumstances.

In almost all cases of apoplexy which occur instantly there is rupture of a vessel. A man, for example, drops down and dies in a short time, and on examination a rupture of some vessel is found. I have, however, seen two such cases in which there was no rupture. In some cases there is merely general turgescence of the vessels of the head, and effusion into the ventricles or between the membranes. Sometimes it happens that when the patient recovers there is a small clot, or an appearance very like what occurs in concussion. The vessels appear to be torn from their beds, so that the brain on examination presents a dotted appearance in different parts. This is sometimes found in cases of apoplexy. If the patient recover these become irritants, and generally occasion inflammation and softening of the brain.

SYMPTOMS OF CHRONIC INFLAMMATION OF THE BRAIN.

Sometimes chronic inflammation of the brain precedes apoplexy as a cause; sometimes attends it as a concomitant; and, in the way I have just described, it sometimes follows apoplexy as an affect. Chronic phrenitis bears the same relation to palsy as to apoplexy: preceding, attending, or succeeding it. When palsy exists after apoplexy there is mostly some effusion of blood. Chronic inflammation of the brain is closely allied to turgescence without inflammation.

The investigation of chronic phrenitis is difficult;—

1. Because the seat of the inflammation may be various; for example, in the membranes, or in the substance, of the brain; in only one, or in all the membranes of the cerebrum, cerebellum, or both; or in different parts of either of these membranes covering any portion of the cerebrum or cerebellum: and these parts, moreover, have a mutual influence on each other.

2. Because chronic inflammation is obscure in its origin and insidious in its progress. The acute and sub-acute forms of phrenitis are indicated by pain, fever, and impeded functions; and in these cases the whole organization is affected. In the chronic form there is no fever; the pain when it exists is slight, and the impeded functions not distinctly marked; and most frequently the disease is confined to a particular portion. We are not well acquainted with the functions of the individual parts of the brain; hence this is one source of the difficulty.

3. Because the histories of cases are mostly defective. The symp-

toms have not been noted with sufficient minuteness during its progress or decline, nor can they be until we have ascertained the healthy functions of the different parts.

One of the most certain signs of chronic inflammation of the brain or its membranes is pain within the head. Sometimes, however, pain occurs in the head for a long time without inflammation.

A lady, who was frequently liable to head affections, for a long time had pain within her head so distressing as to render her life almost a burden to her. In this state she went to Rome, and took great interest in the arts. She was much impressed with the ruins of Rome, and this wrought such a change in the nervous, and probably in the vascular, system, that the pain instantly ceased. If there had been chronic inflammation, the symptoms would not have thus all at once ceased. I believe it was a state of chronic turgescence.

In chronic inflammation when the pain is absent, you may excite it by shaking the head. Persons having chronic inflammation of the head can hardly ever bear the trembling of a carriage. They feel very uneasy if the carriage be driven rapidly over a rough pavement, though, perhaps, they are not rendered uncomfortable by being driven over a smooth road.

Under chronic inflammation the person feels the head uneasy when he hangs it down; and I have frequently seen a dropping of one eyelid more than the other, or of both.

I know a lady who has chronic inflammation of the brain, and I have no doubt a softening of the substance of the brain; and she has entire blindness of her right eye.

Sometimes there is intolerance of light and noise.

A lady was supposed to have chronic inflammation of the eyes. I was sent for to see her, and found her sitting in a dark corner of the room, and she had on a bonnet of a peculiar shape to exclude the light. I thought there was some affection of the head. The conjunctiva was injected, as it often is in acute or sub-acute phrenitis. She was distinctly the subject of chronic inflammation of the brain.

A sensation of weight and of girding about the head, and a feeling of giddiness, often occur. Sometimes pulsation is distinctly felt in the head. Sometimes cramps occur in the body, at a distance from the head. Sometimes there is a remarkable dulness in the head; sometimes there is a remarkable drowsiness; and sometimes there is watchfulness.

The French think that the brain being inflamed, disorders and diseases occur in particular parts of the body, according to the particular

part of the brain that is affected. Thus, whenever the membranes are inflamed, especially the arachnoid, there is a tendency to delirium. The dissections which I have made do not confirm this sweeping conclusion. I trust the facts of the French, but I receive their conclusions with great caution. They have just burst from their old system of pathology, and seem to me to draw conclusions too general from a few facts.

Sometimes a person sleeps after a time at which he has been accustomed to awake, or the contrary; and this is a very suspicious sign.

The liver and stomach are very often affected in chronic inflammation of the brain. Very often the stomach is so disordered as to appear to be the part primarily affected. What is called sick head-ache is almost invariably associated with some affection of the head.

Sometimes there is some disorder of the stomach, disorder of the liver, and disorder of the lining membrane of the bowels. The person fancies he sees black spots before the eyes, has a foul tongue, and has a vomiting of bile. This is called a bilious attack. The vomiting of bile relieves the liver, and the nausea lowers the heart's action. I have seen a marked case of this, in which a friend of mine recently died, and which evidently occurred from turgescence in the head. In all cases of what are termed bilious attacks make a point of investigating the state of the head; but it is also important to attend to the stomach, liver, and bowels.

In chronic inflammation of the brain sometimes these symptoms go on till the patient complains of weakness or numbness in different parts of the body; and a slight paralysis occurs, in the eye, for instance, or in the end of the little finger. After being a long time in this state, probably the affection winds up with an attack of fever.

I saw a lady whose disease bore the character of what is called indigestion. She had fever which put on the character of inflammation of the brain; when I saw her she was dying. On examination a chronic abscess was found in the anterior portion of the right hemisphere of the cerebrum, and in the upper portion of the cerebellum. She had enlargement of the liver, which was of a gingerbread consistence. She had long complained of pain in the forehead and the back of the head.

A lady died of fever who had long complained of pain in the back of her head; and on examination after death a portion of the cerebellum was found softened, very much like custard-pudding.

A man who was brought into the Fever Hospital had an attack of fever. His respiration was heavy and his pulse oppressed, and he

gradually sunk and died. He had chronic inflammation of the brain for a long time, which was followed by an attack of fever. It was considered to be typhus fever by the medical men who sent him to the Fever Hospital.

Many acute and sub-acute affections are of this kind; therefore always take into account the past as well as the present history of cases.

Sometimes these cases become apoplectic. Sometimes the person has lancinating pain through the brain, and pain in different parts, till at length he suddenly falls down and dies; and on examination you find chronic inflammation of the brain.

I saw a case where there was rupture of a blood vessel on one of the corpora striata, and the ventricles were deluged with blood.

Individuals thus attacked sometimes recover for a time.

A lady at first frequently had head-ache, then blindness of the right eye, and then partial paralytic attacks. She has been distinctly threatened with apoplexy, which has hitherto been warded off by bleeding and a spare diet; but she will at length probably die of apoplexy, and if the head be examined I believe that chronic softening of the brain will be found.

In cases of chronic softening you find, as you approach the part, the brain is more and more vascular. The brain is broken down; and very often in its centre you find a minute clot of blood, which in all probability has been the cause, though sometimes the effect, of the disease. Occasionally you will find tumours in the brain after similar symptoms; and sometimes chronic inflammation of the membranes. Sometimes there is ossification of the membranes; and very often in the advanced periods ossification of the arteries of the head, especially in the internal carotids.

In individuals who are the subjects of ossification, the respiration being affected, the flow of blood through the lungs is impeded, and it is thrown back on the right ventricle: thus the blood is impeded in its return from the superior cava, and so the brain is affected.

Apoplexy, then, is not necessarily a simple disease, though sometimes it is; but often it is complicated.

The preceding symptoms being remembered, the attack may be sometimes prevented.

The symptoms of apoplexy depend upon different conditions.

SYMPTOMS OF CONGESTIVE APOPLEXY.

In some cases it is only a modification of congestive fever. This is particularly the case in children and in very old persons.

I. THE EXTREME FORM.

An old man, for instance, in walking out is chilled, falls down suddenly, and instantly dies. A child in being taken out in cold weather is chilled, and has an attack of convulsions, in which it dies. In these cases, you will find turgescence with effusion or extreme congestion. You may call this apoplexy; but you will generally also find the bronchial linings congested, and sometimes the lungs are congested. Here you have a cold skin, a blanched eye, a weak pulse, feeble respiration, and a profound prostration of strength. This state arises from depressing agents, such as cold. Sometimes in these cases a vessel gives way, and then they are, I believe, invariably fatal.

II. THE INTERMEDIATE FORM.

Sometimes the congestion is intermediate, and the vessels are only distended. The patient lies in a state of stupor like sleep; the skin is about of the natural temperature; the pulse is struggling and appears oppressed, as if trying to throw off some superincumbent weight; and the respiration is heavy and oppressed. In these cases, then, you generally find the brain and the pia mater congested; but occasionally there is rupture of a vessel, and sometimes effusion.

SYMPTOMS OF EXCITIVE APOPLEXY.

Sometimes the disease sets in indirectly through the influence of depressing agents, but sometimes from stimulants, in the excitive form. Then you have a full and expanded pulse, a hot skin, a turgid and bright eye, &c. Sometimes it occurs after a full meal being taken. The symptoms are directly opposite in the one case to those of the other; for in the one the heart's action is increased to an extraordinary degree, while in the other the heart's action is very much diminished.

The excitive form of apoplexy occurs sometimes in children.

My little boy was thus attacked, and had a hot skin, a quick pulse, a bright eye, and then an attack of convulsions; and I believe he would have died but for blood-letting.

Adults, however, are more frequently attacked than children, because they commit greater irregularities of diet and drinks, and because they are more exposed to the influence of depressing and exciting agents.

They are more the subjects, for instance, of local plethora, and especially of general plethora.

There is a chronic state which sometimes precedes the attack ; it is very often the winding-up of chronic inflammation or chronic turgescence. It arises sometimes from tumours or ossifications of the head. Ossification is a rare occurrence till after the fortieth year. Independently of all this, you will find that persons who have chronic affections of the lungs are liable to apoplectic attacks, and you will find that persons who have chronic affections of the heart are liable to apoplectic attacks. Apoplexy frequently occurs thus : the current of circulation being more rapid than natural, and the blood being impeded in its passage through the lungs or heart by disease of those parts. A sudden removal of blood from the surface to the centre of the body is a very common cause of affections of the head, which become inflammatory when reaction or excitement takes place.

TREATMENT OF CHRONIC TURGESCECE OF THE BRAIN.

When you find universal plethora, if there be chronic turgescence with the symptoms I have mentioned, remove the general plethora immediately by blood-letting and purging ; and prevent the return of it, not by bleeding and purging, but by a spare diet. A great mistake is frequently committed, which is that of abstracting animal food and allowing a large quantity of vegetables. The quantity of food is far more important than it is usually considered to be. The patient may take a moderate quantity of animal food daily, but he must be content merely to exist if he wish to live. The general management is of very great importance in cases of general plethora.

TREATMENT OF CHRONIC INFLAMMATION OF THE BRAIN.

You may remove chronic inflammation, if it be of short duration, by bleeding, purging, and a spare diet ; and the general management should be carefully attended to. The patient must live on a small quantity of food and drink ; he must take moderate exercise ; he must avoid every thing which may stimulate the heart ; and he should also lay his head high at night.

Many attacks of apoplexy are occurring in bed, and this is connected with the position. In the recumbent posture the blood ascends to the head with ease, but descends with difficulty. When the head is high the blood rises against the direction of its gravity, and is favoured in its

return by the descent of the veins. A frame of wood, six or eight inches higher at the top than at the bottom, should be screwed on the bedstead, and a mattress laid upon it.

Attend also to the bowels and to the stomach. If you feel it your duty to tell your patient about his disease, always give him hope ; nor will this hope be unfounded, for by care an attack of apoplexy may be prevented.

TREATMENT OF CONGESTIVE APOPLEXY.

I. THE EXTREME FORM.

If there be an extreme congestive state of apoplexy, I certainly would not bleed. The case should be treated as one of congestive fever, and your first object should be to bring a flow of blood to the surface ; and if you pour in a large quantity of caloric by the hot-air bath you may very often save the patient. Having produced a warm skin and an expanded pulse, if the symptoms be not relieved you may abstract blood ; but in the first instance blood-letting is a most dangerous thing.

II. THE INTERMEDIATE FORM.

In the intermediate form of congestive apoplexy you may generally save the patient by blood-letting. Bleed till the symptoms are relieved, regardless of the quantity. Regulate the general management, and adopt a spare diet.

TREATMENT OF EXCITIVE APOPLEXY.

Under the excitve form of apoplexy you may have recourse to similar bleeding with propriety. It is an exceedingly good plan to open a vein in each arm at once ; every moment of time is then valuable ; your object is to draw as much blood as possible in a short time.

In apoplexy it is important to remember that the overloaded colon has considerable influence on the abdominal aorta, and this influences the quantity of blood in the heart and in the head : always, therefore, unload the colon by means of injections. If the deglutition be perfect I should not hesitate to give croton oil.

When the deglutition is difficult, and the sphincter ani is relaxed, the patient will almost always die. If the deglutition be not difficult and the sphincter ani not relaxed, you need not despair.

You must, then, in the treatment of each case be guided by the symptoms.

If you save a patient from an attack of apoplexy once, it becomes your duty to be honest with him, and having investigated the state of his head, you should point out to him the proper parts of general management, and, showing him that his life depends upon his adhering to these, you should hold out to him a hope of preservation.

A lady had a sensation of fulness and pain in her head, with wandering pains in different parts of her body, especially the right side, with numbness of the right side, and many other indications of a threatening of apoplexy or palsy. I adopted a plan of treatment which relieved her, and gave strict directions that she should adhere to a spare diet. I saw her again, and found her living upon full diet and drinking wine. I told her that she was threatened with apoplexy or palsy, and that unless she adopted a spare diet she would certainly be the subject, and probably the victim, of the one or the other; and since that time she has been very careful as to her diet.

If you can only regulate the quantity of circulating blood, and the velocity of it, it is surprising how effectual preventive means are. I have seen many persons who have been distinctly threatened with apoplexy live to extreme old age by being careful about the diet, drink, and clothing.

LECTURE XLVI.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF PALSY.—TURGESCENCE AND INFLAMMATION OF THE SPINAL CORD, AND CURVATURES OF THE SPINE.

IN this lecture I shall make some remarks on palsy. There are three modifications of palsy pointed out by our systematic writers: 1. Paresis; 2. Hemiplegia; 3. Paraplegia.

1. If a foot or a little finger were paralytic, it would form paresis.

2. A paralytic attack of one-half of the body longitudinally is termed hemiplegia.

3. If the body were transversely affected, either the lower or upper half, it would constitute paraplegia.

4. Independently of these varieties, it sometimes happens that the whole body is paralytic. You see this in very formidable attacks of apoplexy: the patient has no muscular power at all from great compression of blood on the brain.

PREMONITORY SYMPTOMS OF PALSY.

The signs I pointed out as indicative of chronic turgescence or of chronic inflammation within the head, occur before attacks of palsy, as before attacks of apoplexy; for, regarding them as seated in the head, they are merely modifications of the same disease. Those observations apply particularly to hemiplegia and paraplegia.

The same conditions of the vascular system which attend the threatenings of apoplexy attend also the threatenings of palsy. You will often see disorder of the stomach, liver, and bowels, and occasionally you will find affections of the lungs, preceding the attack. Persons labouring under chronic bronchitis, or any chronic difficulty of breathing proceeding from the lungs or from the heart, are very liable to paralytic attacks. A chill will sometimes lead directly to an attack; in cold weather it is connected with the skin.

The means of prevention are the same as I pointed out in speaking of the prevention of apoplexy.

NATURE OF PALSY.

I. PARESIS.

Paresis is generally a formidable affection, not abstractedly considered, but because it is accompanied by some serious affection of the brain itself. A slight paralytic affection of the tongue often precedes either a formidable attack of apoplexy, or of hemiplegia, or of paraplegia; but especially of hemiplegia. A slight paralytic affection of the eye frequently precedes a formidable attack of paralysis. All slight paralytic affections are formidable when they are connected with affections of the brain, which will be detected by making a careful investigation and contrasting the symptoms with the healthy functions of the brain. Sometimes the paresis is numbness, as in the middle or end of one finger. Sometimes it is merely weakness, so that the patient, for instance, cannot grasp any thing with the hand so firmly as before. When you cannot trace this to a local cause, as to a tumour pressing on a nerve, you may look to the brain or spinal cord for the cause. One local weakness which is very frequent is, what is called weakness of sight. This often announces an attack of apoplexy; often an attack of hemiplegia; often an attack of paraplegia;—attacks which depend entirely upon congestion of the head, and which are to be removed or prevented by removing the congestion. It is remarkable that, from the experiments of Flourens, different portions of the brain are connected with different functions. From removing one part of the corpora quadrigemina blindness occurred in the opposite eye. He found also that when the optic nerve was divided the iris was paralysed. In some cases of blindness the iris remains obedient to light.

Occasionally attacks of palsy are strictly local: after a severe labour, for instance, the bladder may be paralysed. It is generally recovered from as the woman recovers.

Mr. Shaw has shown that the muscles of the face supplied by the portia dura, which passes through the temporal bone, are paralysed by affections of the ear. If you remove the inflammation of the ear you sometimes remove the partial paralytic affection of the face. These affections of the ear sometimes consist of inflammation extending through the bone, and involving the brain, and the patient dies comatose.

In referring you to Mr. Shaw's work, it is my duty to say that he has committed one great and common error, and that is, his facts are very few, and from these he draws a general conclusion.

In many cases, when the muscles of expression were paralysed slightly, I have found indications of affections within the head. Mr. Shaw says that this does not often arise from affections in the head; but I can confidently say that he has drawn by far too general an inference. Far more frequently when palsy exists in the muscles of expression, the cause is within, and not out of, the brain.

Sometimes a tumour pressing a nerve will produce palsy of the forearm; therefore you should ascertain whether there is a local cause, and not finding one, you should investigate the state of the brain and spinal cord.

Many cases of palsy are connected with chronic turgescence or chronic inflammation of the brain: they do not come on suddenly, but gradually; a finger, or a muscle remote from the head, or one eyelid, becomes gradually paralytic. Those persons who go about the streets with contracted hands generally have chronic softening of the brain, and these cases are hopeless when they have continued a long time. Sometimes there is pain and twitching in the paralytic muscles.

II. HEMIPLEGIA.

Attacks of hemiplegia apparently occur suddenly; but, if you trace the ease backward, you will generally find that some warning preceded it.

When apoplexy comes on, and the patient recovers, you often find one side paralytic.

I know a gentleman who one day rode hard in order to arrive in time at a ball. After the ride he dressed and went into the ball-room. Going down a dance, he fell in an apoplectic fit, from which he recovered in a few days; but one side was paralytic, and has continued so ever since.

Where such affections occur thus suddenly, they are combined, not always, but generally, with rupture in the head.

Sometimes paralysis occurs without apoplexy.

I knew a dissolute young man, who fell down one day, and found he could not get up. He had been an actor, and was accustomed to be very figurative in his expressions. Even on this occasion, when I went to him he could not help saying—"Here I am, doctor, with all my senses unclouded, but one half of me is withered; and if these were the days of witchcraft, I should believe I was bewitched."

These cases generally affect the body longitudinally—the right arm and the right leg, or the left arm and the left leg; and as Morgagni

first observed, the side which is paralytic is opposite to that side of the brain which is diseased. The patient generally drags one arm and leg behind him; the mouth is more or less awry, especially when he smiles; and he generally mutters or speaks indistinctly, especially if he be excited from mental emotion or from wine.

I have repeatedly dined with the gentleman who fell in a fit of apoplexy while dancing (page 564): he is accustomed to take his wine daily, and after two or three glasses his speech becomes indistinct.

Subjects of hemiplegia are generally either calm in their minds, or they are remarkably depressed. Sometimes you find the powers of the mind depressed; and this sometimes increases the affection, so that the patient suddenly dies. A man who was a philosopher before the attack, becomes a contrary character; and a person who was extremely courageous becomes very timid, crying on the slightest occasions. Sometimes, however, the mind is not at all affected.

TREATMENT OF PALSY.

I. TREATMENT OF PARESIS.

Paresis, or partial palsy, must be removed, if the cause be local, by removing that condition, if possible. If the cause be in the brain, your object will be to remove it; and it will generally be, in the first instance, turgescence, or chronic inflammation. French authors would make us believe that softening of the brain always occurs in partial paralysis. I have, however, seen it completely removed by bleeding, purging, and a spare diet; so that it is not always complicated with softening of the brain.

The removal of mere chronic turgescence of the head is very easy, and may be produced by a diet strictly regulated, especially as to quantity.

II. TREATMENT OF HEMIPLEGIA.

Hemiplegia occurs in three classes of individuals.

1. It occurs in one class who are pale and spare, in whom there is a deficiency of blood, with a deficiency of the red particles of the blood. Here there is commonly only a local plethora, complicated, most frequently, with disorder of the stomach, liver, and bowels. Sometimes you will find great benefit from abstracting from four to six ounces of blood; or from a blister to the nape of the neck, and topical blood-letting. A little mild alterative medicine should be given

to stimulate the liver occasionally, the bowels should be daily opened by moderate purgatives, and a spare nutritious diet should be allowed. You would thus remove or lessen the turgescence, and ward off an apoplectic attack, or some other fatal disease, at least for a great length of time.

A lady in Oxford-street has distinct threatenings of apoplexy and palsy, connected with chronic inflammation of the brain, and no doubt with softening of the brain ; yet, by purging and a spare diet, she is always relieved. Pain in the head, drowsiness, wandering pains, and numbness in the extremities, every now and then occur in her case.

2. Hemiplegia occurs also in full, lax habits. A person in this state is full of blood, but almost invariably faints before eight or ten ounces of blood have been extracted. Moderate quantities of blood may be taken away. These persons generally eat largely, and take little exercise. The main point is to regulate the diet and the drinks : avoid too large a quantity of food, and avoid offending the stomach with indigestible substances. If the diet and drinks be attended to, the patient will often recover, or the complaint be greatly alleviated. The drinks are very important. If I had taken an account of all the cases I have seen, I have no doubt that nine out of ten might be traced to the use of ardent spirits or of large quantities of wine. If patients would only submit to strict regulations, I believe they would often recover from hemiplegia.

The gentleman to whose case I have before referred (page 564), who fell while dancing, was able, from using a spare diet, to walk with a stick. He afterwards, however, returned to his old way of living, and now he cannot walk across his room.

It is very difficult to get patients to submit to strict regulations as to diet, especially if, while in health, they have been accustomed to eat and drink well.

I saw a gentleman who was the subject of hemiplegia, attended by excessive fulness within the head. It became my duty to tell him that I saw only one chance of his living long, which was, to omit wine and ardent spirits, and to adopt a spare diet. He said he had been always accustomed to live well, and that he would continue to do so, and that he would live "a short life and a merry one." I met his sister three months after this, and she informed me that he was dead.

A waiter at an inn, who was the subject of hemiplegia, now walks well, from having adopted a spare diet : the slight trip in his gait would not be observed by those who did not know it.

In these cases there is a very peculiar action—a slight trip of the heel, or the person in walking performs a circular motion of the foot.

An old gentleman came to me three or four years ago : he was indistinct in his memory, so that he could not remember any thing I said to him, and I was obliged to write down directions about his diet and drinks. I ordered occasional cupping, as he was of a full habit. From strict attention, he recovered the functions of his mind, and threw off the hemiplegia entirely. He afterwards died of pneumonia.

These are strong facts, and deserve your notice.

A seton in the neck, in cases of hemiplegia or paraplegia, when the head is affected, often seems very beneficial. But if you relieve the over-fulness in the first instance, the main thing to attend to is a moderate quantity of food, and a moderate quantity of drink, which should be mild, as plain water, or toast and water. The head should be raised at night, and the clothing should be warm, in order to avoid a chill. If the patient, during this treatment, have uneasiness in his head, abstract a little blood occasionally.

Perhaps the cerebellum, on the whole, is affected as often as the cerebrum. If the cerebellum be not the source of motion, it seems to be the regulator in the main, according to Flourens ; for when he began to slice the medulla oblongata, trembling occurred. The medulla oblongata is nothing but the upper part of the spinal chord. According to Gall, the brain is nothing but the continuation of the spiral cord under the appearance of a mass of grey and white substances connected together with medullary fibres. The pons Varolii, the crura cerebri, the thalami nervorum opticorum, the corpora striata, the cerebellum, the corpora quadragemina, and the cerebrum itself, seem to be a continuation of the same union of grey and white substances by transverse medullary fibres which may be traced in the medulla oblongata. This may explain why affections of the corpora striata are connected with affections of the lower extremities.

3. The other class are of a full habit and firm fibre, and bear bleeding very well.

III. PARAPLEGIA.

The seat of paraplegia is sometimes within the brain ; but it may be external to it when the affection is in the lower extremities. The observations of Flourens, of Rostan, and of Gall, have thrown much light upon the subject, and show that paraplegia has its source seated sometimes within the head, and sometimes in the spinal cord. If it be

seated within the head, you have the indications of disorder within the head which I mentioned as warnings of apoplexy. In some cases you have a simultaneous affection of the brain and spinal cord. This is especially the case in instances of excessive venery, or of onanism. The patient in the case of onanism walks first to one side and then to the other, like a man rather intoxicated, with a slightly tottering gait. The same occasion sometimes produces complete blindness, and it generally at last winds up with effusion into the ventricles of the brain, and between the membranes of the brain, and frequently into the theca vertebralis. Attend, then, in a preventive point of view to the symptoms of chronic turgescence within the head and down the spinal cord.

SYMPTOMS OF CHRONIC TURGESCECE OF THE SPINAL CORD.

Sometimes you have pain in the direction of the spine ; for example, in the neck or loins. This pain is increased, generally, by bending the head forwards or backwards, or by bending the body forwards or backwards, or by twisting the spine. If the cervical vertebræ be effected, you have pain in the muscles of the neck ; with tingling, numbness, or pain in the upper extremities. You have the same sensations in the lower extremities if the lumbar vertebræ be affected, and wandering pains in the joints of the limbs resembling rheumatism. Injuries of the spinal cord may go on to inflammation and softening of the spinal cord, as in the head : I have seen several such cases.

TREATMENT OF PARAPLEGIA.

Paraplegia when seated within the brain must be treated upon common principles.

It is generally connected with over-fulness of the vessels of the head. You may bleed according to what is called the constitution of the patient ; that is, considering whether he be pale and spare, or lax and full, or firm and full. If he be of firm fibre you may generally bleed very largely. When the patient is of a lax fibre, it is better to draw away a small quantity of blood, and repeat this, than to bleed too largely at once. The cure mainly depends on a strictly regulated diet. The only general rule which I can lay down is, to avoid all sorts of food which will offend the stomach by being indigestible, and to avoid a large quantity of food. The patient should take as small a quantity of food as possible compatibly with his comfort, and it should be very simple. A large quantity of food generates a large quantity of blood, and indigestible food acts on the heart.

TREATMENT OF CHRONIC TURGESCECE AND CHRONIC INFLAMMATION OF THE SPINAL CORD.

When there is a case of chronic inflammation or turgescence of the spinal cord, apply a blister in the course of the spinal marrow. This, and bleeding, purging, and a strictly regulated diet, are the best remedies.

Some cases occur from sudden injuries received on the spine. A man, for example, in ascending a ladder, tumbles down, and has a partial or complete loss of power. The patient has at first what surgeons call concussion; a weak respiration, great prostration of strength, a weak pulse, and a cool skin. Wait till excitement comes on before you abstract blood.

In fatal cases you see dots of blood, from the vessels being torn from their bed, as I have before described.

Concussion includes different states of the brain. Sometimes there is no injury; sometimes there is rupture; but more commonly than these, there is this dotted appearance to which I have referred.

The congestive state passes away; and then simple excitement occurs, or more frequently inflammation, especially in the brain.

Sometimes the same occurs in the spinal cord. A rupture of a vessel takes place there, and blood is effused under the theca vertebralis. I think in such cases, or where extravasation of serum is to be inferred from the violence of the symptoms and from their continuance, that an operation might be performed, to consist in making an outlet for the fluid at the lower part of the spine. There is a place at the lower part of the sacrum where an opening might be made; care being afterwards taken to exclude air. This point is worthy of consideration, and has not been sufficiently attended to. Generally, what you have to encounter is inflammation. You have pain, loss of power, &c., as I have before mentioned.

These cases generally do well, if there be not fracture with depression, from bleeding, purging, and a strictly regulated diet.

When there is a partial loss of power only, the case is mostly hopeless.

A captain of an East Indiaman fell in a twisted position. When he got up he found that he had not the power of standing. His brother examined him, and sent for a surgeon, whom I was desired to meet. On examining the lumbar vertebræ, I was confident that one of them was loose but not displaced. Pressure being made on it, the respiration was affected, but this effect ceased when the pressure was removed; and hence arose all the affection. On attempting to raise himself in his bed

on one occasion, his hand slipped under him, and he put it suddenly to the part. His eyes were turned up and fixed; he was in a state of collapse; the respiration was weak; the heart's action was suspended; the upper extremities became cold; and he continued thus nearly three quarters of an hour, struggling between life and death. I have no doubt there was fracture of one of the lumbar vertebræ. He was kept at rest for several weeks; he was repeatedly bled, took a spare diet, and went through a course of aperient medicines. A celebrated surgeon was consulted to decide whether he might go to the East Indies. He went; and this was the captain to whom I alluded as having saved his crew from cholera morbus by strict regulations, when the crews of ships near him were being thinned every day by that affection.

In all these cases absolute rest is of very great importance.

Besides what I have already mentioned, there are other affections of the spine which require to be considered.

There is one affection which attends diseases of the spine which does not strictly bear a paralytic character. Before, however, advert-
ing to this, I will give you a caution respecting diseases of the spine.

PATHOLOGY OF LATERAL CURVATURE OF THE SPINE.

A lateral curve of the spine is very common, and it is almost always in the right side: to the right side in the upper part of the spine, and to the left side in the lumbar region. It most frequently occurs in delicate females, and generally in the upper classes where exercise is neglected.

TREATMENT OF LATERAL CURVATURE OF THE SPINE.

If you see it in an early stage you may generally prevent its increase by attending to the diet, and to exercise in the open air.

Lay the patient down every day for a few hours; attend to the state of the bowels; and use exercise of the arms and of the muscles of the trunk. This will often prevent it from advancing, and even remove it. It generally advances very much as the person advances in life, and then there is often a liability to affections of the lungs or of the heart from pressure on those organs, and from the curvature of the aorta.

PATHOLOGY OF CURVATURE WITH DISEASE OF THE SPINE.

Another affection occurs in which the bones are diseased. Some-

times it begins in the ligaments of the spine; sometimes in the intervertebral substance; and sometimes in the bodies of the vertebræ. In all these cases the affection is almost always associated with some disorder of the stomach, liver, and bowels, which generally precedes and attends it. The patient very often, in the first instance, complains of uneasiness about the pit of the stomach, and very often of severe uneasiness of the chest, especially of difficulty of breathing or of pain, and sometimes of a slight cough.

You should examine the spinal column, rapping each vertebra separately with the knuckle, and you will soon detect any tenderness that exists. As it goes on, the upper extremities become affected, if the disease be in the cervical vertebræ; and the lower extremities, if the dorsal and lumbar vertebræ be diseased.

The dorsal and lumbar vertebræ are by far the most frequently affected. A child begins to trip as it walks; then the toes are pointed downwards, and the legs stretched straight out. This is different from either hemiplegia or paraplegia. The patient next begins to pass the fæces and urine involuntarily.

The bodies of the vertebræ are absorbed, and the spinous processes are generally separated from each other.

The pathology, then, of curvatures of the spine is twofold: one state connected with disease of the bones, the other not.

TREATMENT OF CURVATURE WITH DISEASE OF THE SPINE.

In the treatment of the affection which I have last described you have two objects:—

1. To remove the local inflammation; and—
2. To restore to a healthy state the stomach, liver, and bowels.

In the beginning you may generally stop the inflammation by a strictly regulated diet, by absolute confinement, by attending to the bowels, and by abstracting blood locally from the part where there is tenderness on pressure. Absolute rest in the recumbent posture is essentially necessary.

When you see the case late, your object is to promote ankylosis. Without rest, the patient has but little chance; but absolute rest being adhered to, a regulated diet being adopted, the bowels being regulated, and strict attention being paid to the clothing, the patient will generally recover without issues or setons.

With regard to issues and setons there is great difference of opinion,

some saying they do good in these cases, and others maintaining that they do no good at all. As there is some doubt, it would perhaps, be right, especially for a young practitioner, to use them. I cannot myself speak as to their utility.

3. Another disease, called lumbar abscess, sometimes occurs in connexion with diseases of the vertebræ. It is very much mitigated by the use of the bed invented by Mr. Earle for that purpose.

LECTURE XLVII.

MADNESS MEDICALLY CONSIDERED.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, PATHOLOGY, TREATMENT, DURATION, AND DIAGNOSIS, OF MADNESS.

IN this lecture I shall make some remarks upon madness.

The word mad, I believe is derived from the Gothic word *mod*, which signifies rage; and the word *mania*, which the Greeks apply to madness, has the same signification. Melancholy means black bile. Hence, in the ancient writers, the term mania is applied to that form of madness in which there is excessive excitement of the system, with violent emotions of the mind; and the term melancholia to that form in which the body and mind are depressed. Hence, also, the terms high madness and low madness.

Cullen calls mania, universal madness; and melancholia, partial madness. But madness and melancholy, in the common and proper acceptation of the words, are far more correct; for mania may be partial madness, and melancholia universal madness. The terms high madness and low madness are remarkably characteristic of madness with rage and madness with depression.

Insanity is derived from the Latin words, *in*, prefixed to a word signifying not, and *sanus*, sound—unsound; hence the term cracked.

Derangement is derived from the French *dérangé*, signifying out of order; it is a common expression for madness.

The word lunatic is applied when the patient has lucid intervals. The ancients supposed that many diseases, as epilepsy, and especially madness, were under the influence of the moon; and this opinion still prevails with some.

Idiocy is applied to those who are from their birth imbecile; but it indicates a state which may also arise from blows, or from disease of the brain.

Another term which was applied to madness by the old writers is now confined to the wanderings attendant upon fever. It is delirium, which is derived from the Latin words *de lirâ*, out of the track.

PREDISPOSITION TO MADNESS.

1. Hereditary.

In some families madness prevails very remarkably from generation to generation, especially in families of a swarthy complexion. It more frequently occurs between the thirtieth and fortieth year than at any other age, although it sometimes occurs at a much earlier, and sometimes at a much later period.

All individuals who are marked by nature in a peculiar manner have a tendency to madness; they generally have some extraordinary expression of face, or something remarkable in their mind or manner. All individuals who are so odd as to attract notice have a tendency to it, such as those persons who are remarkably quick, or very absent; so also have those who have a strong eccentricity, which nothing can correct or control. I have seen several such examples. It sometimes occurs in the form of fanaticism, enthusiasm, scepticism, &c.; generally, in some very remarkable form. It mostly appears in the form of what is called wrong-headedness, or a want of practical tact.

2. Acquired.

I believe that various affections, as inflammation of the brain, predispose to madness. Also blows on the head are predisposing occasions. One attack of madness certainly leaves a liability to future attacks. The habits, and the diets, and the drinks, of persons, predispose to madness; all things, in fact, which disturb the stomach and disturb the nervous system. Certain pursuits predispose to madness, as those by which the imagination is much called into exercise. Painters and poets, who surround themselves with an imaginary world of their own, are liable to madness; and so are persons whose brain is employed in intense application to the affairs of real life. So a tendency is acquired even from the circumstances and society which surround a person; thus keepers of mad-houses have a liability to madness, and have even become mad. If madness prevail in a family, the circumstance frequently preys upon the minds of other members of the same family, and the become mad.

REMOTE OCCASIONS OF MADNESS.

These, whether they be mental or physical, operate either by exciting or by depressing the system preternaturally.

Sometimes both mental and physical circumstances operate at the same time.

Famine, for example, operates physically and mentally; you have bodily weakness combined with mental anxiety, which often produce madness; hence, if you trace the history of countries where famine has existed, you will find that madness simultaneously prevailed to a great extent.

A very great shock—any national shock, such, for example, as revolution—produces madness. It is notorious that madness was more common in France during the French revolution than it has been since, or ever was before.

Reformations in religion excite madness. Many persons became mad about the period of the great reformation which Luther introduced.

Fanaticism, especially when it leads its subjects to take gloomy and terrific views of themselves and of the dispensations of the Deity, excites madness. Fanaticism too is often the consequence of madness. I have known individuals who have been dissolute, and who have contracted a slight degree of madness from a disordered state of the stomach, liver, and bowels, become fanatic, and go about among their friends, preaching to them doctrines of the most gloomy kind; and they are never pleased but when they are taking melancholy prospects of the horrors of futurity. I do not mean to say that the doctrines of religion as taught in the New Testament will at all predispose to, or excite, madness; but, I repeat, that fanaticism is, I think, sometimes a cause, and sometimes an effect, of madness. It operates, on common principles, on the nervous system, exciting or depressing the mind.

In this way commercial speculations, by which hopes are first highly excited and then suddenly disappointed, will produce madness. It is notorious that at the time of the South-Sea scheme, numbers of individuals concerned in it became mad.

Gambling excites madness, by producing sudden alterations of the most exalted elevation and the most profound depression of spirits.

Men of philosophical pursuits are very liable to madness, to which their pursuits first predispose them, and which they next excite. While I was studying in Edinburgh, I saw in an asylum an individual who, in the early period of his life, had been a schoolmaster, and famed for his mathematical knowledge. A circumstance occurred which disquieted his mind, and he became mad. When I saw him he gave me a paper, which he said contained a solution of all the problems with respect to longitude which had ever been laid down. It contained a great number of figures without any reference to any particular object.

Mathematicians, however, whose minds are generally tranquil are little liable to madness.

Excess of venery and the solitary vice of onanism excite madness. They both affect the nervous system remarkably; they both stimulate the heart excessively; they both tend to gorge the brain and spinal cord excessively; and they both tend to render the individual mad.

Mercury upon the same principle, in some individuals, produces madness. I have seen several individuals who, the moment the mouth becomes affected by mercury, become delirious.

I have twice attended a gentleman, the brother of a pupil here, under these circumstances.

This delirium sometimes passes into genuine madness.

Madness very often occurs from taking spirits, wine, or porter, in excess. I believe that no physical occasion is so productive of madness as the abuse of these drinks; they stimulate the heart; the alcohol is absorbed, mixes with the blood, and operates specifically on the brain; it is, in short, one of the most powerful exciting occasions of affections of the head I know of.

Opium sometimes produces madness.

I saw an individual, in an asylum which I attended a few weeks for a friend, who became mad after a large dose of opium (I believe a hundred drops of tincture of opium), which was given him to check a diarrhœa; and his madness was peculiar, on account of the astonishing way in which he magnified every thing with which he was concerned.

Too full a diet produces madness, as I have seen.

I know a gentleman, who lived upon vegetables, of which he took very large quantities, and thrice he became mad from this cause. A very absurd plan is that of abstracting animal food from a patient, and allowing him an immoderate quantity of vegetables. The fact is, that in all affections of the head, the quantity is fully as important as the quality of the food. Large quantities of vegetable food are very often the cause of general repletion, which falls on the head if the head be the predisposed part.

Madness, especially that form of it which is termed melancholia, arises from too spare a diet, with disorder of the stomach, liver, bowels, and of the vascular system.

Sometimes madness may be distinctly traced to local causes.

I mentioned the case of a clergyman whom I knew, though I never attended him, and who received a blow on his head when a young man. The disease went on for several years under the form of what is called dyspepsia; then he became hypochondriacal; then insane; and died apoplectic. On examination of the head, chronic inflammation of the membranes and disease of the brain were found, commencing opposite the spot where the injury had been received.

A clergyman fell from a gig, and was stunned at the time, but soon recovered. After some months he began to stagger as he walked in the streets like an intoxicated person, and it was supposed that he had contracted the habit of drinking to excess. He became confused in his mind, so that he could not read the service correctly, and on one occasion, he preached two sermons. He had an attack of erysipelas, which required copious blood-letting and other evacuating remedies: these removed the inflammatory affection which had been going on in the head. Afterwards he was partially paralytic, but he recovered his intellectual faculties.

An old lady laboured under madness; and though I made a tolerably minute examination of her case, yet I forgot to examine the scalp. She was suddenly and unexpectedly removed from my care, and placed in an asylum, where she died shortly afterward. Her head was examined, and a fracture of the occipital bone was found, which was connected with inflammation and effusion; and on tracing back the history of the case, it was clear that this injury stood in the relation of a cause to the madness.

In all cases of madness, then, never neglect the examination of the scalp, to satisfy yourself whether or not there is any depression of the bone.

Madness may be, and ought to be, viewed under three heads:—
1. Medically; 2. Metaphysically; and 3. Morally.

I. MADNESS MEDICALLY CONSIDERED.

SYMPTOMS OF ACUTE AND SUB-ACUTE CONGESTIVE MADNESS.

And it ought, in the first place, to be regarded as an acute or sub-acute congestive form of disease. Many cases distinctly come on thus. The patient has all the symptoms of congestive fever, and we cannot be surprised that, under so great a shock, if the brain be predisposed, it should become diseased. I have never seen a case of madness which was not preceded by bodily disorder.

You generally have proofs of disorder of the stomach; frequently of disorder of the colon; and of disorder, sometimes of inflammation, of the liver. You have proofs of disorder or disease of the head, with some change of the expression of the countenance. You have a feeble or an oppressed pulse, and a cool, pallid skin.

A gentleman had three attacks of madness, before each of which he had distinct marks of congestion in the brain; and, on one occasion, he

was in danger of dying in this state. The congestion was each time followed by a distinct attack of fever, during which he was delirious, and the madness continued after the fever was removed.

Many cases of madness commence in attacks of fever, and the disorder of the mind continues when the fever has been removed.

The congestion may continue, and terminate in an attack of apoplexy; but very often excitement follows, and an excitiv form of fever is established.

In this form of madness the patient sometimes suddenly becomes furious. This was the case with the poet Cowper.

SYMPTOMS OF ACUTE AND SUB-ACUTE EXCITIV MADNESS.

Madness commences, also, as an acute or sub-acute excitiv form of disease; and then you have a heat of skin higher, and a pulse quicker, than natural; uneasiness about the head; disturbed sleep; or watchfulness; with wanderings of the mind; and the delirium takes place early. The fever declines, and the tongue becomes clean, but the disorder of the mind continues. The patient has a suspicious or a side look, which are remarkably characteristic of madness; he is violent at one time, and submissive and dejected at another.

On some occasions, the patient dies in this state at an early period.

I saw a young individual, who had an attack of madness, which occurred as a case of fever with delirium. The patient died within three weeks, of affection of the brain, of the spinal cord, of the bronchial passages, and of the abdominal viscera.

Madness occurs, then, under two states of the system.

In one case, you have an over-accumulation of blood internally, and a deficiency externally, with a torpid state of the whole system.

In the other case there is excitement, with a high degree of mobility, which includes a great degree of irritability and of sensibility.

Both these forms are often preceded by threatenings. Almost all affections of the head, though they appear to be sudden, will be found, on examination, to be very slow, especially madness. If the case, whether it occur in a congestive or an excitiv form, be traced backward, you will find evidence of the patient having, in the one case, been in a most depressed state of mind, and in the other, of his having been in the most active state of mind; and in both cases it will appear that the stomach, liver, and bowels, head, and skin, were affected. This it is important to remember, in a preventive point of view.

Examples of this kind have occurred in public characters. We have

lost a Whitebread, a Romilly, and a Castlereagh; and the history of these distinguished men shows that their corporeal functions were disordered before the madness came on. Some persons have requested to be bled, on account of the great depression which they have felt previous to an attack of madness.

I knew an individual who repeatedly requested his medical man to bleed him under these circumstances. His request was refused; and the consequence was, that he made an attempt—and that an effectual one—upon his life.

Here I may request you to remember, when you are called to an individual who has attempted to cut his throat, that the cause of death is frequently an effusion of blood into the trachea or bronchial passages. I have seen two cases of this kind, where the patients were distinctly suffocated, and did not die of the external wound. It is important that you should not forget this, because the person's life may be saved by placing the head in that position which is most favourable to the prevention of suffocation by the effusion of blood.

I believe that suicide is often committed momentarily. I have met with many individuals who have had, they say, a predisposition, they knew not why, to destroy themselves. This is especially the case when there is united disorder of the stomach, liver, bowels, and head, which leads to madness.

A lady told me that in passing by a pond she felt an almost irresistible tendency to throw herself in, she did not know why. She was prevented by the presence of a little boy who was at play near the pond.

Whenever the slightest tendency to madness occurs the person should always be watched.

Madness comes on also under a chronic character, and there are two forms of chronic disease attending madness; the one congestive and the other excitiv.

SYMPTOMS OF CHRONIC CONGESTIVE MADNESS.

In the congestive form you find the head disordered; you find also the skin, stomach, liver and bowels disordered. Sometimes you have proofs of slight inflammation of the mucous membrane of the intestines, and of torpor of the liver. In these cases the patient is for a long time filled with gloomy apprehensions, the mind becomes excessively depressed, and then madness is developed.

Sometimes this state suddenly changes, and the patient becomes exceedingly alert.

I knew a lady who, from being a cold, gloomy, retired character, became all at once gay, and even dissipated.

This is often seen in asylums : the proud become courteous ; the silent become talkative, &c.

I saw a striking instance of it in a captain in the army. The first visit I paid him I found him walking up and down the room with his arms folded and a melancholy countenance, nor would he speak to any one. The next time I saw him he was greatly excited, and was violently walking across the room and talking to every person he saw.

I have seen many cases of this alternation of character.

I knew a gentleman who had received frequent injuries on his head by falls from horses. At first he became dejected, had great depression of spirits, and wandering pains. He went on thus till he had an attack of apoplexy, which was removed. He then became animated, bustled about, and talked to every body he saw ; in short, his character was completely changed.

Sometimes no such change occurs. Patients contrive to suppress every indication of the sensibility of their minds, especially those who keep their feelings within their own breasts at other times. Shakspeare has finally portrayed this character:—

“She never told her love,
But let concealment, like a worm i’ the bud,
Feed on her damask cheek : she pined in thought ;
And, with a green and yellow melancholy,
She sat like patience on a monument,
Smiling at grief.”

A lady had sustained a disappointment, the effects of which she concealed even from her parents. This, with the certainty of the disease being in the family,—for her brother was then in an asylum—preyed upon her mind, and produced melancholia ; yet she never gave a hint of her own sufferings till one day an expression escaped her which showed me the cause of her disease. She had a slight twist of the mouth and a dropping of one eyelid, with considerable irritation of the abdominal and pelvic viscera. This lady had a peculiar illusion ; she thought that she was so large as to be quite a sight in the streets, and she never wished to go out of the house. On every other subject but this she was perfectly rational.

Such cases as this are by no means uncommon.

The functions of the uterus are often irregular before and during madness in females ; they are pale and emaciated, with a haggard expression of the countenance,

Another form follows this state, or arises independently of it; and it is one which you very frequently see in asylums.

If you walk into an asylum you will see one class of patients pale and emaciated, hanging down their heads, and not speaking to any one. And you will see another class of patients, having a bright sparkling eye, perpetually wandering and bustling about, and incessantly talking.

SYMPTOMS OF CHRONIC EXCITIVE MADNESS.

In the chronic excitive form the patient is restless in mind and body, and with a variable disposition; he has a fur on his tongue, and a pulse quicker than natural, and is generally watchful at night; he has in fact all the symptoms of common excitement, and this frequently continues for a long time without being followed by collapse.

1. These patients are excessively fickle; they contract friendships readily and suddenly, and break them off as abruptly as they were formed, and hate persons without any apparent cause.

2. Others are dissipated or eccentric. Numbers of individuals show madness by a strong propensity to make purchase after purchase of things wholly inconsistent with their fortune, by which they ruin their families. This eccentricity which led to such actions was considered by the Romans as madness, and Curatores were appointed who were answerable for the personal safety of the individual and for his fortune. Many persons who are at large in this country require similar protection, and I am surprised that some such law has not been adopted. Many persons who are now wandering about the streets ought to be under the charge of Curatores; they would be much happier thus, and probably save their families and friends much sorrow and misfortune.

3. These individuals are remarkably suspicious and remarkably cunning.

I am attending a gentleman who is now convalescent, and will probably soon be quite well. He is remarkably quick in his answers, and fertile in his inventions. I found him sitting one very cold day in his wife's flannel petticoat, and remarked to him that he was very airily dressed. "Oh!" he said, "a petticoat is far more convenient than breeches for a man who is under the operation of physic."

4. Sometimes these patients flatter and fawn upon individuals about them; and then it is necessary, especially if the individual be a medical man, to be exceedingly careful, as they do it from deceit; they will smile on a person and plunge a knife into his heart. Those individuals who are exceedingly complacent and subservient should be secured as

well for the sake of their own safety as for that of others, as they often under that semblance are carrying on or contriving some most diabolical plot.

DURATION OF MADNESS.

Whether it occurs in an acute or chronic form, if it be not fatal in two or three weeks, it goes on generally for three or four months at least. Do what you will, you will generally fail to remove it in less than this time. It has been very painful to me to see persons, who probably would have recovered in this time, sent to an asylum as soon as they became mad. If you be called upon to attend a mad patient, you should, for the sake of your own reputation, explain the improbability of the patient's recovery in less than this time. I am sure that three patients out of four who are mad will do well if they be kept out of an asylum, and properly treated. There are several reasons, which I shall hereafter notice, why asylums are unfavourable to the recovery of mad patients. If you have a case of madness under your care you should have a sufficient time to allow your remedies to operate : sometimes six months are required, but generally I would say from four to six months.

Sometimes patients recover in the second year. A very absurd rule still obtains in Bethlem Hospital, which is that of rejecting patients as incurable if they do not recover in twelve months. By reference to the tables of Esquirol it appears that many individuals have recovered in the second year.

PATHOLOGY OF MADNESS.

With regard to the anatomical pathology of madness, I may remark that I have never seen the body of a patient who died mad examined where there was not some disease of the brain. As during life there are symptoms of disease of the brain, and the brain is always found diseased upon examination after death, I infer that madness is the effect of bodily disease.

You find the pia mater more gorged than natural, and the tunica arachnoides opaque ; you find blood in the brain, or effusion either into the ventricles or between the membranes. Sometimes you find bloody spots in the brain ; sometimes, as John Hunter and Magendie have observed, you find part of the brain harder than natural ; sometimes a portion of the brain is softer than natural ; and sometimes there are

tumours in the brain. Occasionally the membranes are rather hard, such as osseous points depending from the dura mater. You often find disorganization about the liver, but sometimes you find no disease there. Sometimes the colon is found twisted from its usual situation: this probably is the effect of a torpid state of the colon, which, with a torpid condition of the liver, often attends madness.

DIAGNOSIS OF MADNESS.

There are only two affections which can be mistaken for madness: one is delirium; and the other is the brain fever of drunkenness, or delirium tremens.

I. FROM DELIRIUM.

In delirium fever is present—in madness it is absent. This ought to be satisfactory as a general distinction.

But madness is often ushered in by fever, commencing as an attack of phrenitis; and then how are you to distinguish it? No man can then possibly draw the line of distinction. After the fever is removed the patient acquires a suspicious look and language, which are very characteristic of madness.

II. FROM THE BRAIN FEVER OF DRUNKENNESS.

The brain fever of drunkenness, in a legal point of view, may be considered as madness. The patient acts under the impression of illusions as if they were realities.

In a medical point of view you may distinguish madness from delirium tremens by the combination of symptoms. In brain fever the skin is soft, clammy, and damp; the pulse is soft, the eyes blanched, and the countenance pallid; the hands and tongue are generally tremulous. The occasion may be taken into consideration; it always arises from the immoderate use of ardent spirits. The duration may be also considered; this is generally very short—terminating in one, two, or at most three weeks.

You should be very cautious in forming and giving an opinion with regard to madness.

1. You should be careful with regard to the patient; because if you pronounce him insane he loses his liberty, which is one of the dearest things on earth, and is often put under very painful restraint. It very

often involves too the loss of reputation, of happiness, and ultimately of life. Attempts have many times been made to affix the stigma of madness on persons in order to deprive them of their liberty or property.

2. Another reason why you should be very careful is, that the interest of the patient's friends and of society are involved in the issue of your opinion. If the person be insane, and you allow him to remain at large, it may end in the destruction of his own life, or the life of another fellow creature.

It is especially necessary that you should be guarded for these reasons, and also—

3. On account of your own reputation. The public deal very illiberally with medical men with regard to errors of opinion. The frailty of human nature is inconsistent with any thing like perfection. We see lawyers committing with impunity the grossest errors of opinion, and sacrificing the fortunes of their clients; we see judges also liable to similar errors which involve the prosperity and the life of individuals, with no greater effect; but a medical man for any error of opinion which he commits is punished by being consigned to public odium. The speeches of some lawyers, and the charges of judges, against medical men are very astonishing; some of them, with respect to errors of opinion, have been most unwarrantable. If a medical man perform any act of inhumanity, or commit any gross neglect, he ought to be punished; but no man ever lived without committing errors of opinion, and for these he ought not to be accountable before any earthly tribunal.

Once more, then,—be exceedingly guarded in the investigation of any case of madness. At the same time, in performing this high duty, you should on the one hand be alive to all the decorum and delicacies of life; and on the other hand be inflexibly honest, bending neither to party nor person.

Recollect that some individuals are mad in one point only; medical men have frequently neglected this fact.

When you are called upon for an opinion as to whether a person is or is not insane, your investigation should be careful; your opinion should be given in a qualified way. For instance you may say that the individual is not insane as far as your examination has extended; but that he may be insane upon some point which you have not discovered.

An instance is recorded in Erskine's speeches of an individual, a lawyer, who was once insane, but recovered, and transacted the business of a lawyer's office. He had illusions with regard to a brother,

and left his profession. These illusions were proved to be unfounded, and his will was set aside; yet, though he was insane upon one point, he was able to conduct the complicated business of a lawyer.

In courts of law an opinion as to what madness abstractedly is, forms a point upon which you should be exceedingly guarded.

If you advert to the opinions of lawyers upon the subject—if you refer to the definitions which have been given by authors—it will be found that they are all defective, as no abstract definition has been given which is applicable to every case. You should consider, therefore, what are the intellectual faculties in the head in perfect health; you should apply this rule to the subject supposed to be insane; and you should find out the point in which he deviates from it. This is quite sufficient, and is better than attention to any definitions, which never can be correct in every case.

LECTURE XLVIII.

MADNESS METAPHYSICALLY AND MORALLY CONSIDERED.

IN the last lecture I proposed to treat of madness—medically, metaphysically, and morally; and I finished the consideration of the first of those divisions. The two remaining divisions will form the subject of the present lecture.

II. MADNESS METAPHYSICALLY CONSIDERED.

Considering madness in a metaphysical point of view, which includes an opinion as to the nature of madness,—the aberration from the healthy standard which takes place may be arranged under four classes; and these deviations are to be ascertained by considering what are the intellectual functions during health, and comparing them with what exist during disease.

I. ERRORS OF PERCEPTION.

The integrity of the nervous system, and the presence of an object, are necessary for right perception. Impressions are made on the nervous system by external objects, and these are followed by sensation and perception, or the discovery of the presence and qualities of bodies. This constitutes what metaphysicians call perception.

Among individuals in health there is an universal agreement as to the external properties or qualities of bodies. When an individual is insane, and the error lies in perception, he will maintain his own opinion against the united evidence of the whole world; he will swear, for instance, and that conscientiously, that black is white, and that round is square, and so on.

II. ERRORS OF CONCEPTION.

What metaphysicians call conception is the notion we form of an

absent object, or of a former sensation: it is, in fact, a transcript of what we have felt or perceived.

Between these notions and realities there is a connexion in the healthy state, but deviations frequently exist in madness.

Attention is observation applied to external things.

Reflection is the direction of the mind to those thoughts which pass within us. A mad person sees or hears sights or sounds which do not exist: he mistakes conceptions for perceptions, and imaginary for real things. This seems to result from some change taking place in the brain itself. The occurrence of apparitions may, perhaps, be thus accounted for. A very interesting work has been published by Dr. Ferriar, on apparitions, which he attempts to explain by inflammation or disease within the head.

There are some individuals who assert that they have distinctly seen apparitions.

I know a lady who told an extraordinary story of an apparition which she saw; and she was mad, from a blow which she received on the head.

Sometimes these imaginary things are mixed up with real occurrences.

Dr. Beattie, the poet, was much attached to his son, whom he lost at that period when his mind was fully opened, and when he was beginning to put forth flowers which promised to be succeeded by valuable fruits: he became insane. He always had a knife and fork laid at table: he sometimes expressed his surprise that his son was not present, and he even apologised to his friends for his son's absence.

There is no correspondence to these objects in nature.

Sometimes the patient is intent upon some suspicion, or upon some plot, which operates upon him with all the force of reality. But whether the objects relate to real or imaginary things, the patient reasons very correctly: he assumes things as true, and reasons from those false premises with precision.

A species of what may almost be called madness prevails in the world in religion, philosophy, medicine, &c., which arises from errors of education. We have many instances of this kind in the medical profession. Two-thirds of the speculations in Cullen's First Lines are assumptions, upon which many medical men still act as truths. His premises were false, but his conclusions, and those of his followers, are often true. Having been taught these things, they uphold them as if they were realities: and they do this because they have not the fortitude to exercise their own thoughts. Yet this cannot strictly be

called madness, because it affects whole communities; men professing these opinions can act in a body, whilst the insane only act individually.

III. ERRORS OF ASSOCIATION, MEMORY, AND WILL.

In health, the train of thought is associated with time and space and other circumstances, and we have a control over the associations by the will, which control is lost in sleep; and hence dreams are closely allied to the wanderings of madness. You find that an individual who is mad has confusion in the association of ideas as to time, place, &c.: the controlling power is lost, and the thoughts are presented as they arise. In the lowest degree this only amounts to confusion, as occurs in some cases of reverie, and is dissipated by the presence of any distinct object. Wrongheadedness is closely allied to this: and however virtuous the education of persons subject to it may have been, they will turn out vicious.

IV. ERRORS OF ABSTRACTION AND JUDGMENT.

By abstraction we separate the qualities of things; and by judgment we combine and exhibit them. The remarkable difference with respect to judgment distinguishes one man from another intellectually. It is the power of mind which is latest developed, and is capable of cultivation to the most extreme period of life.

These are the highest faculties of the mind; and they are, or ought to be, constantly exercised in the medical profession. Called to a patient, we sit down and abstract all the circumstances of the case, which we arrange, combine, and exhibit to ourselves; and thus we form, or think we form, a distinct opinion as to the nature of the disease. There are many cases of madness where the patient has no such powers. In one case under this class, the power of abstraction and judgment is retained in every thing but as to a particular thing: sometimes there is a deficiency of this power in several things, and sometimes in all. Many individuals can fit the means to the end with the greatest sagacity and subtlety, and yet are mad on a particular point. Haslam relates a case of a keeper who struck a patient; this the patient felt to be the greatest possible insult, and his manner towards the keeper was entirely changed: he became subservient to him, and gained his confidence, so that at length the keeper employed him as an assistant. He found a weapon and concealed it, and while he was in confidential conversation with the keeper, he stabbed him to the heart, so that he fell dead at his feet.

Having received an insult, such persons will, like American savages, seek revenge through life under any circumstances: they never lose sight of it.

Sometimes in an individual all these four errors are mixed together.

III. MADNESS MORALLY CONSIDERED.

You see, then, the great difficulty of giving an opinion as to whether a man is a responsible agent or not.

A man should be accounted responsible for other actions if he be insane upon one point. Our laws are very humane on this subject: if a man be mad on one point only, he is esteemed mad on all; and punishment is inflicted only on lunatics, who are considered accountable for the actions they commit in their lucid intervals. The laws of all countries are founded upon the opinion that man is not only an intellectual being, but a free agent, and, therefore, a responsible agent. We are, notwithstanding the speculations of some philosophers, free.

By intellect we discover good from evil. This we call conscience. In civilized society there is an agreement in all countries as to what is evil or good. This intellect and moral feeling are changed in madness: the conscience is perverted. Mad persons have not the power of discriminating between good and evil, between right and wrong; and in all those cases they are not responsible agents. There are many cases in society which bear upon this point in the legislation of the world which has never received one-tenth part of the attention that is due to it. Crimes have been committed, and punishment has been inflicted by law upon the aggressor, but no pains have been taken to prevent the commission of crime. If the history of the greater part of the individuals who suffer at Newgate were examined, they could scarcely be called responsible agents. Most of them in early life would be found to have been placed under temptations of varied kinds, and in the company of parents who set them bad examples. Here they have learned to swear, to steal, to lie, to break the sabbath, and to commit any and every deed but those which are right. It ought to be an object with the government of a country to form the character of the lower orders upon good principles; and then they would have a right to visit a criminal with punishment. The safety of society sometimes requires that the guilty should be punished; but in many cases the punishment appears to me to be far too severe, if we take into account the early habits

of the sufferer, of which the government have taken no pains to prevent the consequences.

Man acts from two motives : passion and reflection. If he always calculated the cost he would seldom do wrong. The formation of character is of the highest importance: it is the business of education to bring the passions under the control of the reason. A person may have been born of vicious parents, may have passed his life in dissolute and debasing society, and may have been brought to do, not that which is right, but that which is wrong, so as to completely destroy his responsibility. Here the law is in error: it punishes, but does not prevent, crime, or correct bad principles.

THE TREATMENT OF MADNESS

is, 1. Medical ; and 2. Moral.

THE MEDICAL TREATMENT OF MADNESS

may be considered, as I have endeavoured to show, under four points of view ; and there are most hopes of recovery when the symptoms of bodily disorder are the most distinct. The only rule I can lay down for the treatment of madness is to investigate the bodily symptoms ; ascertain what they are, and refer them, if possible, to distinct pathological conditions, and then endeavour to remove those conditions. You will often find them consisting of disorders of the stomach, bowels, liver, and head. I was surprised at my own success in the treatment of madness in the country, by merely taking this view of the subject, without any reference to the mind. I set aside all speculations, and treated it as a bodily disease. If you adhere to this plan you will cure at least three cases out of four, if you be consulted within the first four months.

TREATMENT OF ACUTE AND SUB-ACUTE MADNESS.

With regard to the treatment which is proper for these cases, you must be guided by the state of the patient.

If the skin be sallow, the tongue foul, and the secretions of the liver deficient ; a tepid bath, an alterative dose of calomel or of mercury with chalk or of blue pill, occasionally, with a brisk purgative, and a regulated diet, will generally remove the symptoms.

If there be excitement, bleeding will often cure it.

Even when the system is torpid, especially when the pulse is sluggish, bleeding, if the patient be of a full habit, is necessary, and that to a great extent. If you remove the bodily illness, you may sometimes remove the madness simultaneously, when the attack is recent. But when you have removed the fever, you will generally find the disease going on with a cool skin, an eye brighter than natural, and the patient will be more sleepless than natural, with some disorder of the abdominal secretions ; and then you must pursue the same sort of treatment in a less active degree, as in cases of ophthalmia. Bleeding, purging, and a low diet, will generally produce a cure in the period I have mentioned.

TREATMENT OF CHRONIC MADNESS.

In chronic congestive madness, a tepid bath daily, an occasional alterative, a daily aperient, and daily exercise in the open air, will be necessary. If, notwithstanding these means, the secretions of the liver be torpid, gently affecting the mouth with mercury has great effect.

In the excitive form a somewhat similar plan must be pursued, in conjunction with blood-letting and a spare diet.

If the patients be torpid, they require but little food ; but if there be excessive mobility, a large quantity of food is required, and the quality should be such as to support the strength without increasing the heart's action.

After the excitement has been removed, exercise in the open air is necessary. It is of the greatest consequence that the patient should be in the open air ; for if he be irritable sleep cannot be produced without it.

I knew a gentleman who had derangement ushered in by congestion, and to subdue which copious blood-letting was required. It then put on an inflammatory character, which required copious evacuations.

I knew another gentleman who had inflammation in the first instance ; and when this was subdued, sub-acute excitive fever remained, which was cured by bleeding.

I knew a man who laboured under most terrible illusions, and who thought that he held confidential conversation with the devil every night : this occurred as a case of chronic excitement, and was removed by the plan of treatment which I have mentioned.

I knew a lady who had successively indications of all these four forms, which were removed by evacuations.

In cases of excitement you must begin with pretty free evacuations, and afterwards regulate the bowels, &c.

ASYLUMS

are very unfavourable places for incipient and convalescent cases of madness.

1. One great objection to asylums is the confinement. Almost all the patients there labour under what is called dyspepsia, which commences in disorder of the stomach, bowels, and liver, simultaneously. This tends greatly to prolong the attack of madness. Place a healthy individual under the same circumstances—coop him up in an asylum, and he would be the subject of dyspepsia (as it is called,) and even, in some instances, of madness.

The plan I would advise you to adopt with persons of fortune, indeed with all persons who can afford it, is the cottage plan. Put the patient apart from his family, and visit him there as often as is necessary, taking care to have a confidential nurse or keeper to carry your orders into execution. Generally it is best to have a male attendant; and you should pursue this plan four months at least. In cases of confirmed madness it becomes a question of circumstances. If the patient be rich there is no necessity for confinement; but if he be poor, it is impossible to meet the circumstances of the case; and then the restraint of an asylum may be had recourse to with very great advantage.

2. Another objection to asylums is the great interest which physicians have in detaining persons in them.

When a physician descends to become a keeper of a mad-house, it is a very suspicious circumstance. Of course there are many honourable men who are far above any such disgracefully interested motives as those to which I allude, and whose discipline might be of service: yet still this is an objection. The frailty of human nature is such, that no individual but one of known integrity should be intrusted with the care of a mad patient. The power of control over mad-houses is vested in the Lord Chancellor and the College of Physicians; and the certificate of one medical man is sufficient to cause an individual to be sent to an asylum; and perhaps he may never see his friends again. The subject of mad-houses has lately been considerably attended to, but I am afraid there are some which are still very badly managed.

3. Again, in an asylum the surrounding moral circumstances are very objectionable, and the medical arrangement is very bad. Constant exercise in the open air is very beneficial when the excitement has been removed; and yet, with a few exceptions, as where there are extensive pleasure-grounds around the premises and where the welfare

of the patient is the first object of consideration, the strictest confinement is adopted.

With regard to—

THE MORAL TREATMENT OF MADNESS,

you must take into consideration the safety of the patient, of his attendants and friends, and of society : he should be prevented from injuring himself and others ; but nothing is more absurd than the old plan of moral management. The Friends have a very rational plan of treating madness. They endeavour to study the character of the patient. If an individual be insane upon one subject, they treat him as insane upon that subject, and as a rational being upon all others ; if he be insane upon all subjects, they treat him as insane upon all subjects ; and they confine him only as much as is consistent with safety. You should adopt such measures as will give simultaneous employment to body and mind, and act with firmness, yet with mildness and kindness toward the patient. The mind should be amused, but not worked. If he ever have his way, he will try to obtain it again, till he becomes ungovernable : such persons are always fertile in diabolical inventions.

The patient should never be left a moment without the presence of another individual, for he may destroy himself, or he may destroy some other individual. Above all things remember this rule.

I was called to attend a gentleman labouring under insanity, and I found him raving mad. He was rambling about an apothecary, about Mr. Peel's Bill, and a variety of other subjects in a short time. I desired that razors and pistols might be removed, and that the fire-irons and every kind of offensive weapon might be locked up out of his reach. I desired that his man-servant should not be allowed to be a moment absent from him. I called again in the afternoon of the same day, and found that my injunctions had been entirely neglected, with the exception of the removal of the razors and pistols. Now here I committed a great error in not seeing the things removed before I left the patient. His man-servant had been sent out upon an errand. I went through an apartment into the one in which he was. He was a strong, athletic man, and he seized a poker, and came towards me to dash my brains out. I lifted my arm up as high as I could to receive the blow. It was a highly polished poker, and came down with such tremendous force on my arm, that the poker broke in two. The patient was extremely agitated, and went into another room, where his wife was. I watched him, and he seized a poker from the fire-place, and taking no

notice of his wife, he came towards me again. I then thought that, as it was a matter of strength between us, and as he had the advantage in that point after the blow I had received, my best plan was to cry "murder," which I did twice most lustily. As no time was to be lost, however, I sprang on him, and seizing hold of his throat, I pressed his trachea, so that I completely paralyzed him; he sunk down, and panted for breath. If I had missed my grasp, he would certainly have killed me.

Whatever directions you give in these cases, you should either carry them into effect, or see it immediately done: the man may destroy himself, or he may destroy you, or he may destroy your reputation. If this man had killed his wife, my reputation would no doubt have been materially, and very justly, injured.

Be sure that an individual is perfectly recovered before you suffer him to go at large.

A friend of mine knew an individual who was discharged from an asylum, and who desired a friend to meet him to dine with him at a certain inn. After dinner, while they were drinking their wine, the maniac drew a pistol and shot his friend.

A similar thing occurred near London a few years ago. A friend of an individual who had been insane came to see him; the maniac was supposed to have recovered, but as soon as he saw his friend, he shot him.

Take care, then, not to discharge an individual till his recovery is complete; and you can only assure yourself of this by the most attentive observation, and the most minute examination.

It will be observed that I have been speaking of madness as the effect of bodily disease, and I have stated that the treatment of madness is most successful when it is viewed rather as a disorder of the body than as an affection of the mind; but my own opinions of the mind are not those of a materialist, nor does this view of the subject which I have taken, involve the doctrine of materialism. I merely mean to say that the brain is the organ through which the mind operates, and that any alteration in that organ may change the operation of the mind, as any change in the structure of the liver may change its functions. If the substance of the brain be diseased, the functions of the body may be intensely impeded; for the brain is connected with functions, as secretions. The doctrine of materialism, and I may say also the doctrine of immaterialism, being investigated, it must end in the acknowledgment of our ignorance. The nature of the mind never can be ascertained by man, any more than man "by searching can find out God."

When a man says that mind is material, he assumes that he knows the properties of matter; and it is certain that no man possesses any such information. Again the common sense of the world is against this conclusion. We see the properties of matter, and we see the operations of the mind, and as they are evidently different, we conclude that the essence of each is different: but we are not certain of this.

There is one class of materialists who assume that the mind is material, and that it is annihilated with the body. This also is an assumption. Some disease attacks this frail body; it dies, and is committed to the grave. A part of it mingles with the dust, and another part evaporating in the form of gas, is united with the surrounding atmosphere. This is all we know on the subject; and if any man assume that the mind is annihilated, he assumes what he has no right to do. Reflect what limited capacities animal senses are. Paley remarks, that many animals seem to have but one sense, or perhaps two at the most, touch and taste. Ought such an animal to conclude against the existence of odours, sounds, and colours? To another species is given the sense of smelling. This is an advance in the knowledge of the powers and properties of nature: but if this favoured animal should infer from its superiority over the class just described, that it perceived every thing which was perceptible in nature, it is known to us, though perhaps not suspected by the animal itself, that it proceeded upon a false and presumptuous estimate of its faculties. To another is added the sense of hearing, which lets in a class of sensations entirely unconceived by the animal before spoken of; not only distinct, but remote from any which it had ever experienced, and greatly superior to them. Yet this last animal has no more ground for believing that its senses comprehend all things, and all properties of things, which exist, than might have been claimed by the tribes of animals beneath it; for we know that it is still possible to possess another sense, that of sight, which shall disclose to the percipient a new world. This fifth sense makes the animal what the human animal is: but to infer that possibility stops here; that either this fifth sense is the last sense, or that the five comprehend all existence, is just as unwarrantable a conclusion as that which might have been made by any of the different species which possessed fewer, or even by that, if such there be, which possessed only one. The conclusion of the one-sense animal, and the conclusion of the five-sense animal, stand upon the same authority. There may be more and other senses than those which we have. There may be senses suited to the perception of the powers, properties, and substance of spirits. These may belong to the higher orders of rational agents; for there is not the

smallest reason for supposing that we are the highest, or that the scale of creation stops with us. Probably, and I believe that, there are a superior order of beings who know something at least of the nature of the mind. I believe that the mind exists after death ; but I have no fact exclusive of *revelation* to authorize me to declare that it does.

Among other great men, Locke seems to have considered the mind as some subtile matter which existed after death. This supposition is not natural, because subtile matter is not perceptible to our senses. Another view of the subject has been taken by Haller and others, who believed in the resurrection of the body, and that the mind was material ; and that after thousands and thousands of years it would seem but a point of time at the day of resurrection, after so long a sleep. It is compared to the bursting of a chick from the egg.

No man can be a happy individual who takes the cold and gloomy view which looks on death as annihilation ; and yet I believe there are many in the world who entertain this opinion as well as the others which I have mentioned. The doctrine of immaterialism is more congenial to our nature, and the mind faintly would soar to immortality ; but still, even this doctrine is only an assumption. It is said that the mind is immaterial, that it has not the properties of matter ; but we are not acquainted with the properties of matter. We say that the mind is immaterial, and that therefore it is immortal ; but this is an assumption. If it be necessarily immortal, it is independent of the Deity, which it is impious to suppose. Whether the mind be material or immaterial, it appears to me that for its future existence it must depend upon the will of the Deity ; and the Deity could as easily make any thing which is material, immortal, as He could any thing which is immaterial. And this seems to have been included in the injunction which our Saviour gave his apostles when he sent them to do miracles and to preach : "Fear Him which is able to destroy both body and soul."

There are many arguments in favour of the immortality of the mind ; and I think that it is not necessarily combined with the doctrines of materialism or immaterialism ; it stands alone and unconnected. The two most reasonable arguments are, 1. Our moral constitution ; 2. The justice of the Deity. If all the philosophers who ever spoke on the subject were to attempt to persuade a man that death is annihilation, I believe that they would ultimately fail. The hope of immortality would still rage in his breast stronger than their boasted arguments. The hope of immortality seems to be an original part of our nature, and I believe that it is implanted in us by the Deity.

If we look about us, we see abundant proofs of the benevolence and beneficence of the Deity. The air we breathe might have been made painful to us ; but it is pleasant. Sight might have been made disagreeable to us ; but it is quite the contrary.

With regard to the moral world, there appears to be a contrast. There we see good and evil mixed together ; though every thing is pleasurable in the physical world. We see nations afflicted with war, or galled with oppression ; we see man gratifying his own evil desires at the expense of the lives, of the comforts, of his fellow-creatures ; we see some surrounded by all the luxuries which this world can afford ; and others visited by famine, by pestilence, and shame. We can only explain this by a reference to a future state ; it is only by such a consideration that these seeming discordances can be reconciled ; and whether we take into account our moral constitution or the justice of the Deity, both speak loudly in favour of a future existence. How many persons who are labouring under the greatest distresses in this world are upheld by this consolation. And would any one wish to deprive them of this hope ? No medical man can have practised in his profession without seeing that such a hope is, during life's existence, conducive to virtue, and, above all, that it is highly consolatory, and that when all other consolations fail — on a death-bed.

LECTURE XLIX.

PREDISPOSING AND REMOTE OCCASIONS, PATHOLOGY, SYMPTOMS,
AND TREATMENT, OF HYPOCHONDRIASIS AND CHOREA.

THE next affection which I shall notice is Hypochondriasis.

PREDISPOSING AND REMOTE OCCASIONS OF HYPOCHONDRIASIS.

Persons of a melancholic temperament are most liable to it. This temperament is generally known by a sallow skin ; by dark, broad, and large eyebrows ; by dark eyelashes ; generally by dark or grey eyes ; by a solemn expression of countenance ; by black hair ; and by a deep-toned sepulchral voice. It sometimes occurs in persons differently characterized ; with auburn hair, light complexion, &c. It is sometimes marked by slow, but very often by transcendental intellectual powers : occurring in individuals of profound genius, who are often indifferent to events about them, and who take no notice of trifles—like the ocean, their power is not felt in the calm, it can only be displayed by the influence of a tempest. It is more commonly found in males than in females, and perhaps it is on this account that hypochondriasis is more apt to occur in males than in females.

There is no doubt, however, that the tendency to hypochondriasis may be, and often is, acquired. Sedentary habits powerfully predispose to it, and especially mental anxiety : the combination of these two circumstances will first predispose to it, and then excite it. It most frequently occurs about the middle or advanced periods of life, at the periods when anxiety makes the longest and deepest impressions. How few who are passing through life can realize the dreams of youth ; and how many who have calculated upon a succession of bright events have to contend with the most bitter disappointments. It is almost invariably preceded, and always attended, by what is called indigestion ; but there is mostly some concurrent state of mind. Many cases of dyspepsia have a mental origin. Voltaire says nothing makes a wise man so much like a fool as indigestion ; and when it occurs in persons of a melancholic temperament, this observation is remarkably true.

The state of mind in hypochondriasis is peculiar: there is an exclusiveness of mind, an earnest undivided attention to self. And accordingly hypochondriasis may be regarded as a mental as well as a bodily disease. There are indications invariably of disorder of the stomach, liver, and bowels, generally accompanied by obscure uneasiness about the head; and the attention of the patient is fixed on his own affairs, perhaps, in the first instance, and next on his own complaint. There is, I repeat, a very peculiar selfishness in hypochondriac persons; and this state of mind goes on till the most amiable person becomes a most selfish being, so that he will sacrifice his fortune, friends, in short, every thing to his own benefit, and can think and talk of nothing else but his own concerns. The mind in these cases becomes a sort of sentinel to the body, and every feeling that arises is narrowly attended to, and generally exceedingly exaggerated. I have seen many young females hypochondriacal, especially those whose habits have been sedentary, and upon whose mind anxiety has been preying. Among medical pupils I have met with many instances. I saw several at Edinburgh, of which the following was one:—

I remember seeing a young man of splendid intellect who was studying medicine at Edinburgh, and he imagined that he had every disease of which he had heard or read or on which he attended a lecture. He was on this account compelled to leave the medical profession. He then turned his attention to the bar, and some years ago obtained an appointment in India, where he recently died.

I have said that there is an exclusive state of mind in hypochondriasis; it does not amount to actual insanity, but it is a state of mind which borders upon it, and which may be associated with it. It is, in fact, insanity on one point.

I alluded formerly to the case of a lady who imagined herself to be so large as to be quite a sight in the streets, and yet this lady is remarkably thin.

I dined with a medical man who was very odd, and he told me that he had a curious case of hypochondriasis in a patient who thought she had the sea in her belly; and that he made a large issue in her abdomen, and thus drew off the sea. I did not suspect at the time that this medical man was insane, but in a few days he was a furious maniac.

I knew a gentleman who desired a medical man to send him some medicine to take, "for he had seven devils." The doctor said he did not like to take any man's word upon such a subject, and wished to investigate the case personally. He called on the patient, and having examined him, said, "Seven devils! you have eight, and the eighth is

worse than all the others put together." It was agreed between them that the doctor should adopt some means of driving out these devils ; and the first was accordingly driven out by a slight electric shock, and the others in succession by shocks increased in power, till only the eighth devil remained ; and then the doctor to get rid of this troublesome guest took care that the shock should be strong enough to knock the patient down, and he was entirely cured.

Hypochondriacal persons display great fickleness of temper : they are generally not satisfied with one medical man, but go from one physician to another. A patient came to me one morning with a pocketful of prescriptions by different medical men, and wished me to read them all. This would have taken me three or four hours, and I told him that I chose to think and act for myself about my patients, and that as to his prescriptions, I would not read one of them ; and thus I got rid of him much sooner than I otherwise should have done. Now it frequently becomes a point of duty with a medical man to be honest with hypochondriac patients, especially if they be young. You seldom find that there is any organic disease in young persons who are hypochondriac ; and if a medical man once indulge their illusive impressions, he will confirm the hypochondriasis in these patients. A medical man should by all means check this state of the mind when it occurs in the earlier periods of life. You often meet with these cases in women. There are many fashionable dissipated women in London, who are the subjects of hypochondriasis. They sit up late at night ; they drink wine ; they eat a complicated diet ; they occasionally tipple a little dram, or take opium ; and perhaps they go on thus for a winter, or a series of winters. Then they must have their cordial draught at night, and their rhubarb draught in the morning. This is precisely the way in which prescriptions are written for dissipated and fashionable females. A medical man should be honest in these matters : he should not give in to the whims and caprices of his patients ; and if they do not like it, let them be displeased if they will. I am sure that, since I have been in London, I might have attended many patients who would have given me a guinea a day all the year round, if I would have given in to their caprices. Hypochondriasis is frequently found among old maids who have been disappointed in love, and sometimes produces a kind of insanity about which Pope speaks.

PATHOLOGY OF HYPOCHONDRIASIS.

There are, then, two principles of pathology to be attended to. Hypochondriasis is an actual bodily disorder or disease.

1. In all young persons it is only disorder, and there is scarcely ever any organic change. For example, the stomach, liver, and bowels, are generally at the same time disordered; you have slight irritation or chronic inflammation of the stomach: you have the liver torpid or irregular; and you have the colon torpid or irregular. This is what I mean generally by disorder of the stomach, liver, and bowels. Along with these you generally have slight irritation or irregularity of the circulation in the brain, which perhaps is the cause of that exclusiveness of mind which attends hypochondriasis.

If any thing arise which produces a sudden and great change, these cases are sometimes immediately cured. The symptoms are not, like those of structural disease, permanent and progressive.

2. In some cases there is organic disease. On minute examination in persons of advanced age who are hypochondriac, you will find some chronic disease of the stomach, liver, bowels, heart, and large adjacent vessels, or brain; and here insanity generally winds up the case.

When there is only bodily disorder, the patient generally makes great complaints and long faces, and you can scarcely perhaps refrain from laughing at seeing him so full and healthy. But when there is organic disease, the patient is generally remarkably withered and wasted; he has become emaciated from a certain point, and this has gradually increased.

I remember seeing two cases of chronic inflammation of the brain, from blows: both the patients were hypochondriac, and died.

In all cases of what is called dyspepsia, if there be any illusion, or any affection of the mind, always look to the head.

You will seldom be alarmed at hypochondriasis when it occurs in young subjects. I have, since I have lectured here, had the honour of curing some of the pupils of extraordinarily dangerous organic diseases by very slight means. I have cured an aneurism of the aorta by a slight purgative; ossification of the heart by a little blue pill; and chronic disease of the brain by a little Epsom salts. You sometimes meet with such cases in private practice, and they are all cured by the removal of the bodily disorder or disease.

THE TREATMENT OF HYPOCHONDRIASIS.

turns, then, on the bodily disorder and the state of the person's mind.

When there is only disorder in its strict sense, the case is readily curable, if the patient's attention can be directed to external objects. Impressions of a tendency contrary to the prevailing feeling may be

produced by medical or other expedients; and you may give a gentle dose of blue pill twice or thrice a week, and a laxative daily, and regulate the diet. Let him, for instance, take plain bread with a cup of tea in the morning, and plain roast or boiled meat at dinner, and a little mashed potatoe or plain pudding. Let him also take regular exercise in the open air: this should be always attended to; for very few persons are hypochondriacal who take much exercise in the open air. I must not omit to mention the great benefit which may be derived from travelling in the open air from place to place: it is surprising how effectually this plan succeeds.

A lady whom I attended under the following circumstances has quite recovered. She had hypochondriasis in London, on account of which she consulted many physicians. There appeared to be disease in the head, and I tried a variety of measures without affording her any relief. She went on in a state of constant mental uneasiness, and I advised her husband to let her give up taking medicine and travel from place to place. They did so all last summer, and she has perfectly lost all her complaints.

Under this treatment the patient will generally do well, if his mind be kept at rest. The warm bath also is very useful. Sometimes there is irritation, amounting to slight inflammation of the stomach, of the small and large intestines, and of the liver: and then local blood-letting, according to the degree of the inflammation, and the constitution of the patient, is necessary in the first instance. Remove all adverse circumstances from the patient's mind. Mental depression greatly protracts hypochondriasis, because it keeps up the disorder of the stomach, liver, bowels, and brain, upon which hypochondriasis depends.

A general officer deemed himself neglected by his late Majesty, George III., and this operated so powerfully on his mind as to make him hypochondriac. It was contrived that he should be introduced to the King on a public occasion, and his Majesty took a great deal of notice of him; and from that time he recovered. This case was related to me by a friend of mine, who attended him.

When there is chronic inflammation at the bottom of hypochondriasis, investigate its seat and extent, and treat it upon common principles. If you find it in the head, stomach, liver, or bowels, remove it, if possible. You must not, however, believe all the patient says of his feelings; but investigate narrowly all the obvious symptoms, and you will be able, with tolerable certainty, to ascertain whether his assertions are true. Investigate, for example, the state of the five external

senses, and the state of the intellectual faculties. Investigate the state of the muscular motion, the state of the sleep, and every thing that relates to the functions of the brain ; and go on thus with all the other organs. Patients in these cases generally exaggerate their feelings very much.

When the case is complicated with organic disease, little can be done by medicine ; but the mind should, if possible, be kept at rest by the removal of all circumstances which are likely to disturb the mind or increase the disorder of the functions of the body.

PREDISPOSING AND REMOTE OCCASIONS OF CHOREA.

The word Chorea was formerly used to express a fanatic dance, very common at one time in Germany. Sydenham first used it to express the disease which by modern surgeons, is commonly termed chorea.

It mostly attacks females ; perhaps because in them the nervous system is upon the whole the most delicate.

It most commonly occurs between the ages of ten and fourteen ; perhaps because at this period the nervous system is brought particularly into action in males as well as in females. I have known it occur earlier than the tenth, and later than the fourteenth, year.

It is, as far as I have observed, always preceded by some disorder of the stomach, liver, or bowels ; and the affection which takes place in the brain and spinal cord, for both of them are affected, seems to be secondary.

You may almost always trace its rise to some improper diet. It is very common in children who eat many vegetables, and are subject to worms. It often occurs from eating pudding ; and frequently from the irritation which arises at the period of the shedding of the first set of teeth.

It arises from any occasion which renders the nervous system irritable ; sometimes, for instance, from the presence of a tape-worm.

I saw a lady in a pregnant state who laboured under chorea. She had a tape-worm, and I ventured to give her a dose of turpentine, which dislodged the tape-worm, and the chorea ceased.

SYMPTOMS OF CHOREA.

Chorea generally comes on by some irregularity in the muscular motions of the arms, legs, trunk, face, neck, mouth, &c., so that you would suppose a child to be playing tricks with itself. If it be in the legs,

the child has a sort of drag; if it be in the neck or trunk, it is an awkward sort of shrug; if in the muscles of the face, it is a sort of catch. After a time, if you put a cup into its hand, the child will perform a number of ridiculous motions in order to get the cup to its mouth. One side is generally affected more than the other. When the affection is very slight, the patient can often get a cup to his mouth, but not when it is fully formed. The motions generally cease during sleep, and are aggravated by notice or sympathy. For some time the tongue is not affected, but it invariably is in the progress of the affection. The patient speaks with difficulty, and rolls his tongue, as if his tongue were too large for his mouth; or he stammers a word or two, and cannot get any further. The deglutition, in time, becomes somewhat impeded. The countenance undergoes a change; it frequently is paler than natural, and has a wearied expression, as if the person wanted sleep, mixed with a degree of vacuity, and at length the countenance becomes fatuous. Generally, if it continue a long time, the intellects are affected, the child gradually losing its memory and other faculties.

These symptoms generally arise gradually, and increase gradually, till at length sometimes all the muscles become affected. The patient is unable to stand, and lies in bed, tossing first one arm, then the other, then one leg, and then the other, rolls its tongue, and performs various other antics in succession.

Sometimes these symptoms come on very suddenly; and in general, then, and when all the muscles of the body are affected, the case is very serious; but there are some exceptions to this.

I knew a lady who for three months had severe chorea; but she at length had all the symptoms of hydrophobia, and died in that state. This, with one exception, is the only case which ever fell under my care which was fatal.

A short time ago I saw a little girl who was in great danger of dying of chorea; she had obtained no sleep for several nights, and all the muscles of the body were in motion. In this case the stools were like tar; she had confusion of intellect, and a fatuous countenance.

When the patient obtains no sleep, and all the muscles are in motion, there is always great danger.

PATHOLOGY OF CHOREA.

The disorder I have said first commences in the *primæ viæ*: and the brain appears to be next affected, as seems to be shown by the countenance and by the state of the intellect. The spinal cord, I believe.

is affected, because the upper and lower extremities are both affected ; probably the cerebrum, the cerebellum, and the spinal cord, are all affected. I have never seen any dissection made of patients of this kind ; but a friend of mine has told me that he saw one case in which there were proofs of increased vascularity of the spinal cord and its membranes.

With regard to the—

TREATMENT OF CHOREA,

the general management is of more importance than the medical treatment ; and one of the most essential things in the onset is a regulated diet. A due attention to the secretions of the liver and to the alvine discharges, and a regulated diet, with an occasional shower bath, will, I believe, almost invariably cure chorea. You will not, however, cure chorea speedily by these means ; you must steadily pursue this plan for six weeks or two months generally, and sometimes it will require three months to subdue it. The best diet for children in chorea is bread and milk in the morning and evening, and a small quantity of animal food with bread in the day. This diet is the best if there be no inflammation in the stomach or small intestines, and then the diet should be very bland, as milk, with some farinaceous food, arrow-root, or thin gruel. Get rid of acidity by an occasional dose of magnesia, or of the carbonate of an alkali. Give calomel every night in conjunction with rhubarb or jalap ; and sulphate of magnesia with infusion of senna, or compound decoction of aloes, or cold-drawn castor oil, in the morning. As an alterative give small doses of blue pill occasionally, not oftener than every second night. When the patient loathes food, but there is no pain on pressure and the head is not affected, a mild emetic may be administered. If there be inflammation of the stomach or small intestines, apply leeches as long as the tip of the tongue is red and there is obscure pain on pressure. Sydenham was in the habit of bleeding in chorea ; and where there are indications of fulness of the head in children of a full habit, moderate general bleeding is sometimes beneficial, but generally local blood-letting is preferable. If large quantities of blood be drawn, especially in delicate habits, the disease will be invariably increased.

I attended a boy, who was a native of the West Indies, at Hackney, with chorea. His surgeon had bled him largely, and all the symptoms were aggravated. He sent for me, and when I saw the boy he appeared to be dying ; he had a combination of chorea and epilepsy. When the

epilepsy left him his skin was cold, his pulse feeble, and his respiration weak. The hot air bath was immediately employed; his pulse rose, and he fell into a profound sleep, and recovered; but he had frequent threatenings of the same state of collapse afterwards, which were warded off by large doses of opium—drachm doses of tincture of opium. I have formerly observed that opium often saves life, especially after bleeding* largely when the patient is in a state of collapse, and especially where there is great sensibility. It saved the life of the little girl to whom I alluded (page 318): I joined calomel with the opium in her case, because the secretions of the liver were very bad, and it was exceedingly beneficial. I gave her this, at night, twice or three times, and a daily aperient in the morning.

During the progress of the disease, the shower bath, at first tepid and afterwards cold, and exercise in the open air, are very necessary. The mind must be attended to. The twitching, &c. should not be talked of in the patient's hearing; nor should too much notice be taken of him.

There are also other means of curing chorea.

Sulphate of zinc will often remove it, and many persons prefer this to the purgative plan. The purgative plan in my hands has always cured it, except in two cases; one of them I have before mentioned, and it failed in a case which I saw in a pupil at Edinburgh. Sulphate of zinc may be given three times a day, in five grain doses gradually increased, keeping the bowels open; but if you adhere to the plan I have laid down you will almost invariably remove chorea as speedily as by the sulphate of zinc.

Small doses of arsenic may be tried: you may begin with one drop (for a child six or eight years of age) three times a day, always taking care to administer it after a meal, and gradually increasing the dose till the disease abates.

I saw one case where a strictly regulated diet and every other plan had failed, and which was cured by music. A travelling musician passed by the house, and while he was playing the child's parents noticed that its motions were remarkably still; they took the hint, and procured sleep regularly every night by means of music, and the child ultimately recovered. I have seen such a beneficial effect, in quieting the motions and inducing sleep, from music, that if ever I saw a case where the patient was sinking I would not hesitate to recommend the use of music.

LECTURE L.

PREDISPOSING AND REMOTE OCCASIONS, SYMPTOMS, PATHOLOGY, DIAGNOSIS, TREATMENT, AND PROGNOSIS OF HYSTERIA AND TETANUS.

PREDISPOSING AND REMOTE OCCASIONS OF HYSTERIA.

THE ancients supposed hysteria to be closely connected with the uterus. What is called the *globus hystericus* they supposed to be the uterus, which, having left its usual situation, had ascended into the neck. This was allowing the uterus rather more latitude than is usually admitted in the present day. Their practice was consistent with their theory, for they applied perfumes to the pubes, and assafoetida, &c. to the throat; the one to entice the uterus downward into its proper situation, and the others to force it from the throat. No doubt hysteria has a connexion with the uterus; it prevails most in females between the fifteenth and fortieth years. There is a remarkable sympathy between the uterus on the one hand, and the brain and nervous system on the other hand; and irritation of the uterus accordingly has extensive influence. I know some individuals who suffer exceedingly in the head from irritation of the uterus.

I know a lady who always squints when the menstrual discharge is about to appear.

I know a young lady who is deficient in sight about this period, and who would remain so but for a free discharge from the uterus.

Remember that disorder of the uterus is almost invariably the consequence of previous disorder of the stomach, liver, and bowels.

Persons of a nervous temperament, who are highly irritable, and have a delicate constitution, are prone to hysteria; these persons have a capricious mind.

The tendency to it may be acquired by various circumstances, as copious bleeding, anxiety of mind, confinement, &c.

But though in females it is closely connected with the uterus, yet hysteria sometimes occurs in males.

Dr. Trotter observes, that at the time of the disturbance among the sailors in the Nore many sailors had hysteria.

I have seen a case of strict hysteria in a sailor.

I have attended a gentleman who has sustained some severe domestic calamities, and who has had three as distinct attacks of hysteria as I ever saw in a female.

Mental anxiety is the exciting occasion in these cases.

A slight degree of disorder of the stomach, liver, and bowels, often predisposes to it, and a higher degree excites it.

I know an Italian lady who has twice had an attack of hysteria induced by strong mental emotions; once by hearing an Italian air. Nothing more strongly associates the present with the past than music; and I believe that most of the pleasurable and painful feelings produced by music arise from this association. This lady had another attack from seeing a gentleman who came from Italy.

Most frequently something occurs to disturb the mind just before the attack takes place.

SYMPTOMS OF HYSTERIA.

When the attack comes on there is generally rumbling of the bowels; this is followed by what is called the *globus hystericus*: a ball seeming to stick in the upper part of the throat. The patient then becomes convulsed; the eyes are turned up, with a twist about the mouth, or a writhing of the trunk and extremities. Generally a feeling of nausea and sickness is present. The patient laughs, and then cries; suddenly she faints, and then she starts up and screams; then she becomes sulky and silent, and after a time she becomes vivacious and talkative. The attack generally terminates by a copious flow of pale urine.

PATHOLOGY OF HYSTERIA.

Sometimes hysteria is complicated with other diseases.

I saw some time since a woman dying of chronic inflammation of the mucous membranes of the air-passages, stomach, and bowels, and she had hysteria.

The strong sailor, whom I mentioned as the subject of hysteria, had a distinct affection of the heart, of which he died.

Sometimes it is connected with fever.

I saw a lady who had incipient symptoms of typhus fever, which occurred with hysteria.

I never like to see an hysterical tendency in fever; it is generally connected with affections of the head or heart.

DIAGNOSIS OF HYSTERIA.

The rumbling of the bowels, the globus hystericus, the writhing of the trunk and limbs, convulsions of the face, followed by laughing, crying, fainting, screaming, sulkiness, vivaciousness, &c. in rapid succession, being remembered; you will have no difficulty in distinguishing it. In short, it is known by its great variableness; for it is a perfect Proteus of disease.

There is another disease to which I wish you to attend—a spasmodic cough; sometimes occurring and looking like laryngitis. There is generally a cool skin and a soft pulse, and the disease generally disappears quite unexpectedly. I have seen several such cases.

The patient in hysteria simulates other diseases frequently; apparently not for the purpose of deceiving, but from an irresistible tendency to imitation. I have been deceived thus several times, and these cases require great caution. It arises from a capricious state of mind, under which the individual is hardly accountable for her own actions.

THE TREATMENT OF HYSTERIA

consists—

1. In correcting the disorder of the stomach, liver, or bowels. This is to be done by a regulated diet, by exercise in the open air, by occasional mild laxative medicines; and recollect, in all person of a nervous temperament, to be very careful in the administration of mercury, which, if it affect the system very much, increases the nervous temperament, and on some persons operates as a poison. Let it be given only occasionally, and in the morning rather than at night, and followed by aperients. On the other hand, be cautious in the exhibition of tonic medicines: if they be given day after day, the patient will become hypochondriac; she will get into a system of drugging, which is very prejudicial. If there be a deficiency of the catamenia, aloetic purgatives may be given.

The treatment consists—

2. In removing the mobility; that is, the increased irritability and the increased sensibility of the body. The kindest thing you can do for the person in a fit of hysteria is to take no notice of her. I believe that if a woman lay on the deck of a ship in a fit of hysteria, she would not fall into the sea if left alone. Patients, as far as I have observed, never injure themselves if they be not noticed. The fit is always

aggravated if the friends of the patient stand around. I have seen many examples of this kind.

A young lady in the country had been for some time the subject of hysteria, and no treatment had benefited her. I saw her, and determined to cure her rapidly; and I therefore told her that if another fit occurred I must burn her feet, as no other treatment had been of service. I told her father, who was present, to put the poker in the fire, and let me know if another fit came on. The fit did not return as soon as usual, and, in fact, she never had another.

I saw a lady in the city, of the same capricious mind, and who was the subject of hysteria. I desired that no notice should be taken of her; and that if she fell in going up stairs or elsewhere, there she should be suffered to lie till she was able to get up again; she was well in two or three days.

A servant in a gentleman's family had been playing similar tricks (if I may call them so), and by a promise of burning her feet, she was completely cured.

A lady, a particular friend of mine, I have several times treated thus with success. When she was in the country she had a fit, and a surgeon being sent for, was alarmed, and bled her largely; I was afterwards consulted, and advised that no notice should be taken of her; and the result was, that she was immediately cured.

I could, if it were necessary, adduce many similar examples. Sympathy is the very food of hysteria; and I repeat that the kindest thing that can be done for a patient under hysterical fits, is to treat her with complete neglect. Nothing tends to increase what is called nervousness so much as notice. If you talk of the subject, or sympathize with the patient at other times or during the fit, you will do her great injury. You should explain the cause of it to the friends, or they may think you exceedingly barbarous.

The only way to cure it in some cases is to appeal to a woman's sense, representing to her the ridiculousness and indelicacy of her conduct, which will generally make her attentive. Flatter her understanding; tell her that she has the power to make an effort to overcome the fits; and you will generally be successful. Adopt Sir Pertinax Macsycophant's maxim, paying constant "attention to make every man well pleased with himself;" but you should do this honestly, and never please any one with himself unless he deserves it, and hysterical patients do deserve it. I have entirely freed many persons from hysteria by appealing to their good sense. The next object in the treatment of hysteria is—

3. To remove occasional over-fulness of the blood vessels.

When hysteria occurs in individuals of a full habit, occasionally there is some tendency to serious affections of the head,

I saw a lady with distinct hysteria for some time, and it was followed by a profound attack of apoplexy, which disappearing left complete hemiplegia, and this was got rid of by evacuations.

I saw a lady who had been the subject of rheumatic affections, and who took dose after dose of opium to relieve the pain. She became hysterical. She then had an overwhelming fulness of the head, and at last became profoundly lethargic; her eye was prominent and watery, and her pulse a mere quiver; she had difficulty of deglutition, and relaxation of the sphincter muscles, and died apoplectic.

When hysteria occurs in these persons, abstract blood, to ward off such affections. Antispasmodics in such cases are to be studiously avoided. And it is not right to abstract blood largely, because it increases the mobility of the patient, and creates an enormous activity of the heart and arteries.

The last object in the treatment of hysteria is—

4. To avoid all the exciting occasions of it.

A medical man should advise hysterical women to shun all these, though some of them cannot be avoided; for instance, a woman cannot help having a bad husband; but she may avoid taking opium, sitting up late at night, and going out and neglecting her children. Opium is very often taken privately by females, especially in the upper ranks of life; and hysteria is often connected with this.

Whatever tends to depress the body, and whatever tends to produce fulness, predisposes to hysteria. These two extremes seem to induce the disease: I have seen this exemplified again and again in the same individual. One very important thing is exercise in the open air. Very few persons are prone to hysteria who go to bed early, and take exercise in the open air.

THE PROGNOSIS OF HYSTERIA

is generally exceedingly favourable. The prognosis, however, requires caution, if hysteria be complicated with other and serious diseases. In families in which affections of the head prevail, and where it occurs in persons of full habit, caution is required in the prognosis of hysteria, as it may pass into apoplexy.

There is one form of hysteria which is almost hopeless unless the husband and the medical man act very decidedly. It is hysteria which

occurs in females who, from novel and romance reading, and from sitting up late at night, have acquired a morbid sensibility of mind, or rather a morbid sensibility of body with a mere pretended sensibility of mind. They do not like any one near them, unless he comes to make some sentimental and satisfactory speeches to them. If the husband and the medical man be firm, it may generally be cured in the onset. If the disease be established, it goes on at least to old age ; and I scarcely know any individual who is more miserable than the husband of such a woman ; for there is not only the doctor to pay, but there is the "devil to pay" into the bargain.

Hysteria sometimes passes into madness.

Two old ladies brought a young lady to my house who laboured under madness, and they told me that she had been disordered in her stomach for some time. At a boarding-school she read a series of books containing accounts of some most horrible murders, and she became extremely dejected. Independently of this she became extremely agitated, and had a strong tendency to destroy herself or some other persons, and she even warned some of her friends to be on their guard. Before she was mad, hysteria occurred. The mental shock occasioned by the books she read produced an hysterical state of the system, and insanity supervened. I have attended other individuals in the same family with head affections ; therefore I have no doubt that there is in them an hereditary predisposition to such maladies. The look of an insane person is very peculiar. This young lady's eyes were for a moment or two fixed on the ground ; then I observed her turning them askew on me, and then on her relatives : and this side-glance of suspicion is most remarkably characteristic of madness.

I saw a lady who at my first visit was labouring under rheumatic fever ; then she had inflammation of the bowels ; then hysteria ; and lastly, a distinct attack of madness, from which in three or four months she recovered.

REMOTE OCCASIONS OF TETANUS.

Tetanus is called idiopathic, or symptomatic ; the one arising from external injury, the other without. This is believed by almost all the individuals who have written on the subject.

A friend of mine, who has had extensive experience in hot climates, never found a case of tetanus occur without local injury ; and he was led to an opinion that this was the case by a careful examination of the whole surface of the body. This is a very remarkable circumstance.

The local injuries which most frequently produce tetanus are those which are applied with friction. I have seen several cases where the patient was absolutely dying, and only one case where I had a fair opportunity of seeing the effects of remedies. I formerly resided at a sea-port in the north of England where this case occurred, from the friction of a rope. A rope, for instance, is stretched across the river; it breaks; and coils over a man's arm or leg.

Wounds of tendons are very apt to produce tetanus. Dislocations occasionally produce it; and a friend of mine had a case arising from dislocation of the thumb, even although the dislocation had been reduced. Superficial sores, as burns or scalds, I have three or four times seen followed by tetanus, and it has come on when the wound has been healing. It may arise from common issues, or from including a nerve in a ligature after an operation. It may be produced by slight operations. If a man have a wound it should be carefully treated; the system should be kept in a state of health, and the mind easy, if you have any apprehension of tetanus; for if a person's mind be impressed with a dread of tetanus, it is more likely to occur. Any local irritation, which disturbs the nervous system generally, will lead to tetanus.

Mr. Stewart, who has seen a great many cases of tetanus, never knew a case arise where turpentine had been applied to the local injury; which is a very remarkable fact. But Mr. Stewart at the same time paid strict attention to the diet, which is of very great importance.

It occasionally happens that tetanus occurs when internal ulceration is occurring. A case of tetanus in a horse is on record, where internal ulceration was found. This, perhaps, may explain the pathology of idiopathic tetanus. The great predisposing or concurring condition of the system seems to be, an increase of the sensibility and irritability, produced by the state of the mind, bad diet, bad air, &c.

SYMPTOMS OF TETANUS.

When it does come on, the patient generally complains of uneasiness or stiffness about the neck or jaw, and tonic spasms occur. When merely the muscles of the jaw and neck are affected, the disease most frequently terminates favourably. When not only the jaw and the neck, but all the muscles of the body are affected, it is one of the most dangerous maladies I know of. The patient is liable then to sudden, and sometimes convulsive, attacks every ten minutes or quarter of an hour. The state in which you generally find such a patient is with his

mouth drawn backward, and a ropy saliva flowing from it. This state is often mixed up with the *risus sardonius*. You see the eyes partly closed; an anxious expression of countenance: the external angles of the eyes are drawn out; and when the fits relax the eyelids open. Before the fit the patient feels pain in the stomach; this seems to be connected with the great sympathetic nerve; there is spasm of the diaphragm, and pain at the lower part of the ensiform cartilage. During the attack, the pulse is very small and remarkably slow, and the respiration is very much affected. Sometimes the muscle are rent from the sternum, particularly the sterno-cleido-mastoideus. Sometimes the muscles of the throat are very much affected. The tongue is moist, the bowels constipated, the appetite little affected, and the mind generally clear. In some instances there are distinct symptoms of hydrophobia, and the patient has the most perfect dread of liquids.

A medical man told a patient that his life depended upon his swallowing some medicine which was prepared for him; the patient made several attempts which threw him into violent convulsions.

I have seen other cases where there have been symptoms of hydrophobia. I have seen hydrophobia in a case of chorea; and I have seen it in a case of hysteria; and I have seen it most distinctly after blood-letting, especially in some females.

When it proves fatal, most patients die before the ninth day, though after this they sometimes die very suddenly. And it should be remembered that, when patients are apparently recovering, mental or bodily irritation will reproduce the affection.

Before death the skin is pale and cool, and has a peculiar moist feel, as if it had been soaped: the face becomes pale and contracted, and then livid; you have a rattling and weak respiration; a dusky lip; and an oppressed, weak, and thready pulse; both the heart and the lungs being affected.

It frequently happens that what is called—

TRISMUS NASCENTIUM

occurs; it is exceedingly common in the hospitals of this country. It is exceedingly common among negro families in the West Indies. Whether it occurs in England or the West Indies, it seems to arise from similar circumstances: from bad diet, from neglect of the bowels, from neglect of the skin, and from breathing a bad air.

The concurring state which leads to it is produced by various cir-

cumstances. The use of spoon-victuals was frequent among the negroes, because they thought the application of the child to the breast for the first ten days after its birth was unnatural and unnecessary; hence swarms of negro children died from this cause. Now they give the child the breast in the first few days after its birth, as well as afterward, and the disease is less frequent. Even in adults, when you apprehend tetanus, you will prevent it better than by any thing else by attending to the state of the wound, to the state of the bowels, and by adopting a regulated diet, and breathing a fresh atmosphere. A surgeon informs me that the disease has been less serious in the West Indies, since these things have been attended to.

DIAGNOSIS OF TETANUS.

There is only one affection which can be confounded with tetanus, namely, a modification of hysteria; and this is easily distinguished.

A woman laughs, cries, and then she suddenly falls unconscious and universally convulsed; the head is bent back on the pillow; sometimes there is an arch between the nape of the neck and the heels. The hands are clenched and laid by the side, the arms twisted outwards; the whole body is rigid; and the jaws are locked. This is often called tetanus, and it has the characters of tetanus; but after a few minutes or hours it passes away, and returns again. In tetanus you constantly have the fits more or less; the rigidity is never entirely removed, though there are abatements. This hysteric disease is by no means a dangerous one; I have seen many cases of it, and all of them have recovered. True tetanus is always a most alarming disease.

PATHOLOGY OF TETANUS.

It is a complaint of the pathology of which we know but little. Dissections of cases which have been fatal are on record; but these are very different. A friend of mine has found effusion of blood in those parts internally and externally which are little protected and loose. The same thing has been observed in horses. In both the horse and the human subject engorgement has been observed about the liver, and especially about the lungs. When an animal has been hunted to death, you will generally find effusion in the loose parts, and a gorged state of the liver and lungs. The reason of this is the pressure made on the veins, by which the circulation of venous blood is impeded. A tetanic patient, in some respects, resembles a hunted animal—blood is accu-

mulated about the heart and lungs ; and this is closely connected with the death of the patient. One of the most remarkable circumstances in the symptoms has always been the oppressed state of the circulation, in which the case resembles the close of a case of bronchitis : and the most remarkable circumstance as far as I know, with respect to the pathology, is the very gorged state of the lungs and heart from the violent pressure of the muscles on the veins. It has been supposed that inflammation of the spinal cord is invariably present. Sometimes the spinal cord is, with the brain, gorged. No doubt different conditions produce similar symptoms in different individuals. In one case the odontoid process was found pressing on the spinal cord. Inflammation of the spinal cord does not generally produce the disease : I have, however, seen two cases of inflammation of the spinal cord attended by tetanic symptoms. One of these patients died in the Fever Hospital ; and the other recovered under the plan of treatment which I shall afterwards mention. Sometimes there is inflammation about the stomach and bowels.

TREATMENT OF TETANUS.

The only rule of treatment which I can lay down for you is, that you should consider the symptoms in reference to the conditions on which they depend. Observe whether there are any symptoms of affection about the brain ; of affection of the spinal cord ; of disorder of the stomach, liver, and bowels ; and observe whether there is any local irritation which requires to be subdued. If any such indications exist, act upon the principles which I have laid down. The treatment of this disease, in consequence of the deficiency of our knowledge of its pathology, is extremely empirical. I have only seen one case where medicine had a fair trial. Mr. Stewart attended twenty-eight cases of tetanus, of which sixteen recovered ; and as this proportion is larger than any which has been known before, I shall mention to you his plan of treatment. He used affusions of water of the temperature of 70° Fahr. over the whole body, every four hours : he had the patient laid on a blanket before the fire, and employed frictions of oil of turpentine down the whole course of the spine. It is remarkable that Celsus speaks very strongly of frictions in tetanus. Mr. Stewart then gave half a drachm of opium in twenty-four hours, in five grain doses every four hours ; he kept the bowels open by cold-drawn castor oil, assisted occasionally by injections ; and he put the patient on a nutritious but bland diet.

I know a gentleman, who says that in tetanus many patients die in

consequence of too great activity of treatment. I should trust very much to the bringing a flow of blood to the surface, and relieving the lungs.

With respect to bleeding, when the lungs are so gorged as to oppress the pulse it is improper, and will afford no benefit. When the pulse is full and expanded, or small and contracted, bleeding may be useful. A gentleman told me that he took an ounce of tincture of opium in tetanus every three hours. This I have seen tried to surprising quantities. Opium contains two principles upon which its effects seem to depend, morphine and narcotine. The morphine has a remarkably soothing effect in inflammation with pain; probably in tetanus the best preparation would be the acetate of morphine, or the meconiate of morphine.

I have found remarkably beneficial effects from the vapour bath, when the system is in a state of great agitation and the skin is cool; and perhaps the vapour bath might be used with advantage in tetanus, where there is a deficiency of blood and of animal heat on the surface.

Baron Larrey relates that he cured some cases by removing splinters and bullets from the wounds.

Stimulants, such as æther, punch, &c., have been tried.

When the fits lessen in number in a certain time and in duration, it is a remarkably favourable circumstance.

But remember that sometimes the patient dies very suddenly, when you expect he is recovering. I saw a case where I was going to use a bath for the patient, but he suddenly sunk into a violent fit, and died almost immediately.

Be careful after injuries, when you have any reason to apprehend tetanus, to prevent it, by regulating the diet, by regulating the bowels, and by placing the patient in a fresh atmosphere; and dress the wound with turpentine, as recommended by Mr. Stewart. In some cases when it is threatened, by uneasiness about the jaw or neck, it may be prevented by the exhibition of calomel and opium.

LECTURE LI.

SYMPTOMS, PREDISPOSING AND REMOTE OCCASIONS, PATHOLOGY, TREATMENT, DIAGNOSIS, AND PROGNOSIS, OF EPILEPSY.—PATHOLOGY AND OCCASIONS OF CONVULSIONS.—PREVENTION OF HYDROPHOBIA.

IN general there are warnings before Epilepsy, or falling sickness, occurs.

I knew a gentleman who married, and then became remarkably dissipated, and used regularly to go to bed intoxicated every night. After some time, as he was sitting one day after dinner, he suddenly started from the table in great alarm, and asked his friends if they did not see any writing on the opposite wall. The gentleman resumed his seat, obviously agitated, and in a few hours he had the first attack he ever experienced of epilepsy, of which he afterwards became a confirmed subject, and of which he died. These visual illusions usually precede epilepsy.

Dr. Gregory, of Edinburgh, used to mention the case of an officer who, before a fit occurred, always saw an old woman in a blue coat, who approached him, and with a stick which she held in her hand knocked him down.

In other persons various other illusions occur.

Dr. Fothergill relates the case of a lady whom he attended who thought he was covered with spangles, although he was dressed in a plain garb, as the Friends usually are. These spectral illusions confirm the opinion of Dr. Ferriar, that epilepsy is the effect of disease in the head. On this principle the appearance of apparitions may be accounted for.

Sometimes before the attack there is a spasmodic affection of the larynx, resembling inflammation of the larynx, but distinguished by the absence of fever and of inflammation about the throat. It generally goes off after a short time, and then the epilepsy comes on.

I know a lady who squints a day or two before the attack, and is sometimes in danger of suffocation from this spasmodic affection of the larynx.

The same sometimes occurs in hysteria.

Sometimes there is confusion in the head, or loss of memory, previously to an attack. Some have visual deceptions, others hear strange noises, or ringing in the ears; some are dejected in their spirits; while others are elevated, as if, for example, they had been drinking champagne. Most persons feel some uneasiness about the stomach or bowels; some are remarkably irritable in their temper; others snore, or snort, or moan, in their sleep in an unusual way; and most have some change of expression in the face, the face being more pallid than natural; and in others there is a dark stripe under each eye. Sometimes there is a squint, or the pupil is unusually contracted or dilated. The expression of the countenance is mostly anxious or wearied.

Sometimes it is preceded by what authors have termed the *aura epileptica*. Some describe this as the sensation of a subtile fluid passing along the skin. Some describe it as formication, as if some insect were creeping from the extreme parts of the body towards the head. Others describe it as a tremor; and it actually seems in some cases to be a trembling of the muscles of the remote parts of the body. Some have uneasiness of the stomach, approaching upward, towards the head. In whatever way it appears, if a tourniquet be applied above the part, it will frequently prevent the fit altogether; and this is a very remarkable circumstance. Sometimes when this has occurred tumours have been found in the course of the nerves.

These premonitory symptoms are in some instances absent, but they occur in the great majority of cases.

SYMPTOMS OF EPILEPSY.

Persons are generally suddenly attacked: they drop down suddenly, foam at the mouth, and are convulsed.

From the suddenness and the strangeness of the attack the ancients supposed it was produced by the anger of the gods; and one of the proofs of the superiority of the mind of Hippocrates, rendered superior by education, is, that he attempted to combat this deception. The ancient philosophers were great fatalists; some of them from the pride of human opinion, some from the prejudices of education. Most men are unwilling to confess their own ignorance, and therefore they often refer natural phenomena to supernatural causes. This affection prevailed in the time of Galen, and its subjects were called lunatic, a term which is now applied to those insane persons who have lucid intervals. This deception it has been attempted to revive by Prince Hohenlohe. Surely all we see of the phenomena of nature indisputably proves to us that

the Deity operates through second causes ; and I believe that the more the human mind is cultivated, the more this will appear by an appeal to facts.

The patient, I have said, falls to the ground ; the mouth is distorted ; and the tongue is often protruded and lacerated, so that foam and blood are seen issuing at the same time. The whole body is generally convulsed at the same time, especially one side ; the hands are clenched ; the eyes are turned up so as to conceal the pupils ; and there is a momentary suspension of the circulation and respiration ; after which the face is livid ; the respiration laborious ; the lip generally blue, from the respiration being influenced secondarily ; and the pulse quick, small, and thready.

This state lasts generally only a few minutes, sometimes longer ; and when it does, the patient has no intercourse with the external world through the medium of his senses. He is generally lost to all surrounding objects, but not always.

Sometimes the fits frequently occur, so that a person has two or three fits in twenty-four hours, or even in twelve hours ; but more frequently he has only one fit at a time.

When the convulsions have ceased, the patient lies in an apparent sleep ; and when he wakes, his face is always paler, and with an alarmed expression of countenance he has confusion of mind, and knows nothing of what has passed since the commencement of the fit, but complains of uneasiness in the head, with langour and lassitude.

In some cases the patient has delirium after the convulsions ; and sometimes *typhomania*, or an alternation of delirium and stupor. Sometimes the patient is silent and sulky after the fit, his character perhaps being changed.

The eye of a person who has had an attack of epilepsy is fuller than before. The eye, I believe, is always remarkably prominent ; and this, with the remarkably pallid face, often enables you to discriminate these individuals.

I am now attending an individual for stricture of the rectum. He has a slight dropping of one eyelid, and prominence of the eyes. He was lately much celebrated as a comic performer, and he is subject occasionally to epilepsy.

This disease has a tendency to return, and generally increases as it goes on ; the fits become more violent, or, generally, more frequent ; till at length the mind, which often for some time is unaffected, begins to suffer : and sometimes it winds up in madness ; sometimes in idiocy, and, more frequently still, in an attack of apoplexy.

Generally, epilepsy may be defined to be clonic convulsions followed by stupor, which after a certain time return.

Clonic convulsions consist of alternate relaxations and contractions of the muscles.

Constant spasms have been called tonic spasms ; and sometimes the muscles continue rigid during an attack of epilepsy, and are suddenly relaxed ; but generally contractions and relaxations alternate.

Sometimes the patient is suddenly seized with confusion of mind in the attack of epilepsy, of which he is sensible, and which lasts but a short time without any convulsions.

A mother was giving me an account of her daughter's illness, when she suddenly stopped ; her face was turned to one side, and her eye was fixed on vacancy ; she was fixed like a statue ; and her pulse, which I felt, was small and rapid : suddenly she resumed her former discourse as if nothing had happened.

This temporal annihilation, as it were, of mind, proved that she had a tendency to head affections.

I saw a lady who had typhus fever in a house standing quite alone in the country ; and this case confirms my opinion as to the origin of typhus fever. This lady had been waiting on her sister, who was insane, in the same house : she was exhausted, and became the subject of typhus fever. Debility predisposed her to it, and no doubt the remote occasion is about the house or adjacent grounds. Typhus fever had before prevailed in that house. These two ladies were daughters also of the last lady I mentioned.

With regard to the—

PREDISPOSITION OF EPILEPSY:

in all families where affections of the head prevail from an hereditary predisposition it is very liable to occur. In one person disease of the head assumes the character of madness ; in a second, the character of apoplexy ; in a third, that of palsy ; in a fourth, that of weakness of sight ; in a fifth, the character of epilepsy ; and so on.

Beyond all doubt, however, the tendency and the disease may arise from a variety of circumstances.

Mental anxiety often produces it. Very often errors of diet, and especially errors of drink, produce it. One of the most common occasions of epilepsy in adults, is error in the quantity or quality of food, and especially of the quality of drinks, as from an excessive use of

ardent spirits, which has been the exciting occasion of many cases which I have seen.

There are two kinds of epileptic subjects, as far as the general habit is regarded. In one the general habit is remarkably full; in the other the general habit is remarkably spare. In one you have proofs of general plethora; in the other you have proofs of local plethora, or *error loci* in the circulation; and that local plethora occurs about the head.

REMOTE OCCASIONS OF EPILEPSY.

One of the most common occasions of epilepsy in children is disorder of the stomach, liver, and bowels. By this I mean a slight degree of irritation of the stomach; some torpor or irregular action of the liver; and some torpor or irregular action of the bowels. This almost invariably arises from error of diet, either as regards the quantity or the quality of food.

In persons predisposed to epilepsy it is often produced by any thing that excites a strong mental emotion.

The Romans called it the *morbis comitialis*, because it commonly happened in the assemblies of the people. The ancient Romans, from comparing their houses with their public buildings, appear to have lived very much in the open air.

I knew an officer who almost always had an attack of epilepsy on a review day. He was adjutant of the corps, and had a great deal to do.

It is very important to remove or avoid all the circumstances which are apt to operate very strongly on the nervous system.

In the same way you may sometimes trace it to the stimulus of heat.

I have known several ladies, who, after being in hot rooms, and at evening parties, have become epileptic; and I have known gentlemen epileptic from the same cause.

Since I have been in London I attended a gentleman who was epileptic, and who was a frequent visitor of evening parties. I cured him by advising a change of his habits, and adopting the treatment which I shall hereafter speak of. Fasting, cold, fatigue, &c. may excite epilepsy.

Mental anxiety operates very unfavourably in this way. I have seen several cases cured by abstracting mental anxiety.

Excess of venery is very often the occasion of epilepsy; and still more frequently excess of that solitary vice onanism, of which I have seen some most lamentable examples.

PATHOLOGY OF EPILEPSY.

The appearances on dissection of persons who have died of epilepsy are very various, which seems to show that the same symptoms may arise from different conditions.

The most common appearances are fulness of the blood-vessels in the pia matter; opacity of the tunica arachnoides; more bloody points than usual in cutting the brain; effusion between the membranes, at the base and into the ventricles, of the brain. Sometimes when there is apoplexy, you find rupture of the vessels of the head; sometimes you find tumours in the brain; sometimes ossification of the membranes; sometimes softening of the brain: and frequently this is the result of chronic inflammation. Esquirol states, that in many cases he found turgescence of the spinal cord and its membranes. Very frequently affections of the brain are accompanied by affections of the spinal cord. Sometimes there are no appearances in the head sufficient to account for death. This led a friend of mine, Mr. Alcock, in one case to examine the air-passages, and he found them full of crude food. During the fit the food had arisen from the stomach into the fauces, and the epiglottis not performing its office properly, the food slipped down the trachea, and suffocated the patient. I am told that many animals who are killed suddenly, as bullocks, which are knocked on the head, are found to have the trachea filled with food. Probably many persons who die suddenly die from this cause. This point deserves and requires investigation in future cases.

We next come to the—

TREATMENT OF EPILEPSY.

1. The less you do during the fit, while the patient lies convulsed and foaming at the mouth, the better. Prevent his injuring himself, and avoid all interruption of the circulation, as by a tight neck-handkerchief. Avoid also extremes of heat and cold on the surface, and admit air freely. It is generally best to lay the patient in an easy position on a mattress, and if the weather be cold to cover him with a blanket. If he be in the habit of lacerating his tongue, put into his mouth a gag, that is, a stick surrounded by wool, and covered with leather; this will prevent such laceration. If the fit continue long with a strong pulse, and if the respiration be not oppressed and the skin be warm, abstract a small quantity of blood, but not much. If the

skin be cold and pale, and the pulse feeble, sinapisms to the feet and blisters to the nape of the neck and the sternum, with the production of warmth, and a purgative injection, are generally the best remedies.

2. After the fit is the best time for curing epilepsy.

Many specifics are recommended for this purpose, but I have no faith in any of them. I have seen more benefit derived from abstracting the exciting occasions than from any thing else. There are two things to attend to with regard to the diet—to avoid indigestible food, and to avoid too large a quantity of food. By indigestible food the heart's action is affected; and by too large a quantity of food a large quantity of blood is generated, and this repletion may maintain the disease; therefore simplicity in the kind, and moderation in the quantity, is the golden rule as to diet. I have seen several cases cured by adopting this rule, and avoiding all circumstances which act on the mind and on the circulation. A regulated diet, occasional blood-letting if the patient be of a full habit, and purgative medicines, are the remedies upon which I have the most reliance.

I know a young lady who had disorder of the stomach, and epilepsy. The epilepsy was cured by the treatment I have mentioned; she one day ate heartily of goose, and the disease returned.

I have seen several cases where it has returned from errors of diet.

The most hopeful cases of epilepsy are those which occur in children; this may be called sympathetic epilepsy. The original disorder arises in the stomach, liver, or bowels; generally in all of them. If you simply attend to the condition on which the symptoms depend, you will generally cure the disease.

I entirely cured a young lady by mild alteratives occasionally, by laxatives, and by a regulated diet. I was consulted by a pupil of this school about a friend of his, who had two attacks of epilepsy within three weeks, and he had all the indications of disorder of the stomach, liver, and bowels. I advised him to adopt a regulated diet, and even to measure the quantity of food and drink which he took. It is now eight weeks since he has adopted this plan, and he has not had one attack; and it is quite astonishing how effectual this plan is if the mind be kept at rest.

If there be anxiety of mind, if possible avoid the circumstances which occasion or maintain it.

I saw a woman who was in a very anxious situation from the harshness of her superior. I had her placed in a more favourable situation; and although before she frequently was falling down in a fit of epilepsy, she has not since her removal had one attack.

I saw an individual who had been very unfortunate, and who supported himself by drawing, for which he had a talent. But such was his pride, that he could never bring himself down to the level of the society to which his occupation in some measure confined him; his mind was in a constant state of anxiety, and he thought himself degraded by the circumstances in which he was placed: he died at length of an attack which had the characters of epilepsy.

Many habits must be forsaken. Diffusible stimuli, for example, must be withdrawn generally, not suddenly but gradually; and you must enjoin a strict attention to the diet. This is very difficult: it is surprising how little importance patients generally attach to these things. Any thing that is simple and obvious they despise generally; and the reason why these things are lightly held by the public is, that by far too little importance has been attached to them by members of the medical profession.

Among many beneficial changes which Napoleon Bonaparte introduced into France was a regulation by which no physician was allowed to write a prescription in Latin, but all prescriptions were to be written in French. The French physicians, I am told, complain of this very much.

The public are so fond of mystery, and attach so much importance to what is obscure, and so little to what is plain, that if you prescribe any medicine in epilepsy, you had better conceal its nature than give it openly.

Producing a powerful impression on the mind will cure epilepsy; and in this way the powder of human skulls will cure it, horror at the dose having the effect of stopping the epilepsy. I have seen the powdered skull of a monkey, used under the name of powdered human skull, succeed in curing epilepsy.

The Irish priests are much more successful in curing epilepsy than the regular practitioners; and they pretend to claim some direct intercourse with the Deity. They make a powerful impression on the mind of the patient, by the religious ceremonies with which they administer their remedies, and thus the disease is cured.

Sulphate of zinc, in some cases, will stop it.

Turpentine sometimes stops it, and is very likely to do so when the bowels are disordered.

Nitrate of silver sometimes stops it, but most frequently fails. Nitrate of silver, after a time, changes the colour of the patient's skin; and there are several persons walking about London, the colour of whose skin is thus changed to a pale slate colour. Upon the whole, I

have not the confidence in nitrate of silver which the French (who have written on the subject) seem to possess. I have seen it tried a great many times, but though in some few cases it has appeared to be useful, in the majority it has failed.

Mistletoe of the oak is another remedy which has been recommended.

You must be careful not to confound any anomalous cases of ague with epilepsy. Thus, sometimes ague will return with obscure indications of epilepsy, after two, three, or four months, and deceive the medical practitioner. The patient is cold in the first instance, then becomes soporous, and the case ends by perspiration. There is sometimes a tendency to twitching during sleep, but not frequently.

I have seen bark and calomel purgatives prevent the return of the disease when epilepsy has occurred at stated periods, as once a month or six weeks, if the diet and bowels be regulated while taking it. Occasional blood-letting is necessary if the patient be of a full habit. Abstraction of electric matter has been said to cure it, and the electric fluid has produced it, as I am told by a friend of mine.

DIAGNOSIS OF EPILEPSY.

The convulsions, the foaming, and the sopor, distinguish the disease—

I. FROM HYSTERIA.

Remember, in hysteria, the *globus hystericus*, at its commencement, its termination by a copious flow of urine, and its extreme variability. The distinction—

II. FROM APOPLEXY,

generally is the absence of convulsions and foaming in apoplexy; all the muscles of the body being then generally relaxed, there is universal paralysis. If you be asked for a diagnosis, give it in this way.

But sometimes there are convulsions in apoplexy. I have seen several cases of apoplexy where the convulsions have been very strong; and then I do not know how they are to be distinguished; I only know by the issue of the case. If it be apoplexy with strong convulsions, it is almost invariably fatal; if it be epilepsy, the patient almost invariably recovers, and it sometimes goes on for a long time before it destroys life.

PROGNOSIS OF EPILEPSY.

One of the most important distinctions in the pathology of epilepsy is that the disease is either idiopathic or sympathetic.

Almost all cases are curable which arise from irritation of the stomach, liver, and bowels.

Many of the cases are incurable which originate from some affection of the brain or of the spinal cord. What this may be, our dissections do not distinguish.

After the twentieth year it is generally incurable; but I have seen many cases of idiopathic epilepsy in adults, where the disease has been mitigated by occasionally abstracting blood, adopting a regulated diet, and the use of purgatives. Tonic medicines are here prejudicial.

PATHOLOGY OF CONVULSIONS.

I shall now make a few remarks on convulsions in general.

Convulsion is an abstract term; and, therefore, you should be very cautious in adopting it. No doubt convulsions arise from different conditions; and I may enumerate seven circumstances which give rise to them.

1. Plethora, with general fulness of the vascular system and increase of the heart's action, distinctly occasions convulsions.

They are generally connected with exposure to heat, violent exercise, powerful emotions of the mind, or obstructions to the circulation; and in women with errors of diet and drinks. Puerperal convulsions is a case in point. In full robust children, with a florid complexion, hot head, full bounding pulse, it is by no means uncommon for the patient to be seized with a slight fever, which suddenly becomes intense, and is followed by convulsions. Sometimes hysterical convulsions arise from this cause in full habits.

All convulsions arising from this cause require bleeding and purging for their removal; and a regulation of the diet, especially as to quantity, and of the habits, for their prevention.

2. Sometimes convulsions arise from fulness of the veins, with diminution or oppression of the heart's action, and a deficiency of blood in the arterial system. This state is produced by some mental or bodily shock, such as depressing passions, low temperature, &c. by which a chill is produced. Old persons and young children are often affected by convulsions in this way.

The mode of relieving them is by producing a flow of blood to the surface, by the hot-air bath, or vapour bath, and by diffusible stimulants, such as brandy, internally.

3. They arise from a deficiency of blood.

Sometimes they occur from copious blood-letting. They almost invariably occur when you bleed to complete syncope. There is great danger in bleeding patients to complete syncope; and I believe that several children have been lost by it. In infants I generally stop when the face begins to look pale, and the pulse is a mere flutter.

In the same way patients die from hemorrhage, as from uterine hemorrhage, in which the patient generally dies convulsed. Many convulsions are allied to this class; as when a patient, having been weakened by long disease, suddenly gets up, and the heart's action becomes almost immediately suspended. This happens, for instance, in some cases of typhus fever. The patient on getting up becomes giddy and blind, and death is sometimes the consequence. Excessive purging sometimes produces the same effects.

This state is to be treated by laying the patient flat, keeping him quite quiet, and giving him stimulants, especially brandy.

4. No doubt convulsions arise from a tainted state of the blood, which probably is the case in hydrophobia.

Arsenic produces convulsions. If you compare blood drawn from a person who has taken arsenic with that of a person in health, by means of chemical tests, they will give different results. In the present confined state of our knowledge we do not know why this is.

Prussic acid evidently affects the blood; and I saw a case of poisoning by prussic acid attended by strong convulsions. Analysis will, I believe, confirm this view of the case.

The treatment must be varied according to the symptoms. If there be excitement, blood-letting, &c. may be required.

5. Local irritation in many habits will produce convulsions.

This local irritation is often seated in the external parts of the body, as in tetanus. Often it is internal, as I have mentioned in hysteria, chorea, and epilepsy; and sometimes it arises from an indigestible meal, or from the presence of a tape-worm in the intestines.

6. Certain odours, sights, and sounds, in many individuals will produce convulsions. Odours generally operate on the nervous system, and the heart's action becomes suspended: in this way the smell of cheese, musk, &c., operates on some persons. In other individuals certain sights will produce convulsions. A lady whom I attend had a child which saw a chicken's head cut off: the child was seized with

convulsions and died, with symptoms of effusion into the ventricles. Many individuals, you know, faint from the sight of blood. In other individuals certain sounds produce convulsions. If I were to be an hour in a concert-room when the music was very complicated, I believe I should be attacked with convulsions. I once went to a concert with my wife, where there were a great variety of performers on different instruments. I soon became very irritable; I got up, and attempted to walk about; but I soon found that my uneasiness increased, and I was obliged to leave.

7. Association of ideas will sometimes produce convulsions. Some cases of this kind are mentioned by Boerhaave: he saw several persons in a school, among whom epilepsy was propagated by imitation. In Scotland, whole congregations, one after another, were seized with convulsions in church, and were obliged to be taken out: this no doubt arose from association of ideas. I have seen this frequently among women. A friend of mine went into a house where he found several women, who had each, one after another, fallen into hysteria. He cured them all by putting the poker into the fire that it might be ready before the next fit occurred.

Often a slight degree of convulsions is produced by association of ideas. Thus we see a mother nursing her child, and, though she is totally unconscious of it, imitating the child's motions, and making the most ridiculous faces and gestures imaginable. The impression being strong on her brain, these gesticulations and grimaces may increase till they pass on to convulsions, hysteria, or epilepsy, of which the two latter are the more frequently propagated by means of imitation.

PREVENTION OF HYDROPHOBIA.

Hydrophobia in Russia has been found, from time immemorial, to be connected with a certain pustular appearance under the tongue; and it has been the practice, as soon as the pustules appear, to destroy them by puncture and the actual cautery.

After a wound made by a rabid animal, excision of the part should be performed as perfectly and as completely as possible. If there be no instrument at hand for this purpose, a ligature should be applied between the wound and the heart, and suction applied. If the poison

of syphilis be introduced into the system, it frequently happens that it remains dormant until something occurs to disturb the general health, and then its effects are developed. The same obtains also with respect to malaria, and the poison of a rabid animal. Hence great caution should be exercised in the maintainance of the health of the general system, in order to prevent the development of hydrophobia.

LECTURE LII.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF CHRONIC INFLAMMATION OF THE FAUCES AND AIR-PASSAGES, AND OF SYPHILIS.

I SHALL now make some observations on chronic inflammation of the fauces and air-passages : but first I may refer briefly to an affection called mumps, or—

CYANCHE PAROTIDEA.

This is a disease which seems in some instances epidemic, spreading rapidly over a district. The parotid and submaxillary glands are generally inflamed, very large, and tender upon pressure, with a hot skin, and a quick pulse ; sometimes there is scarcely any fever. Towards the close it has been observed in some cases that one of the testes is absorbed. This was noticed by the late Dr. Hamilton, of Lynn Regis, who was the subject of it. I have been told by a physician, who resided for a long time at Constantinople, that it is very often the precursor of the plague in Turkey.

SYMPTOMS OF CHRONIC INFLAMMATION OF THE FAUCES.

Chronic inflammation of the fauces is exceedingly common in weak individuals who have some disorder of the stomach, liver, and bowels. I have said that there is a class of sympathetic inflammations : I mean of inflammation connected with disorder of the stomach, liver, and bowels ; and these sympathetic inflammations are exceedingly common in weak subjects. You generally find chronic inflammation of the fauces to be of this kind. It generally attacks weak subjects, whose tongue is slightly furred ; whose stools show a deficiency or a depravity of bile ; and whose skin is dry and husky, or more sallow than natural ; whose urine deposits a pink or lateritious sediment ; and whose bowels also are torpid or irregular. It is important to remember this ; for if you treat this affection as merely a local inflam-

mation you will generally fail to remove it ; but if you remove the disorder of the stomach, liver, and bowels, the local inflammation will generally cease.

It is denoted by a redness in the fauces, about the tonsils especially and about the adjacent mucous membranes. The tonsils are considerably enlarged, and the uvula is sometimes very much lengthened. In the progress of the affection a superficial degree of ulceration sometimes occurs ; and if mercury has been given so as to produce a decided effect upon the mouth, this ulceration often becomes deep, and assumes the character almost of a syphilitic sore. As the affection proceeds, whether there is ulceration or not, the patient has pains in the course of the ear, and sometimes becomes deaf ; and this deafness, when it occurs, arises from inflammation extending along the Eustachian tube to the internal ear. This is a very common source of chronic deafness ; and in strumous subjects this sometimes produces caries of the petrous portion of the temporal bone, succeeded by inflammation of the dura mater, and ultimately of the brain itself.

TREATMENT OF CHRONIC INFLAMMATION OF THE FAUCES.

This affection requires strict regulations to be given as to the diet. Generally there is a slight degree of irritation of the mucous membrane of the stomach, not amounting to inflammation. The stomach is chiefly to be influenced through the diet. With regard to the food, it should be strictly regulated as to quantity and quality. The only rule which I can lay down is, that if fever be absent, as it generally is in this affection, the food should be simple in kind and moderate in quantity ; nutritious but not stimulating. As to the liver, you must stimulate it gently, about every second night by a small dose of blue pill, of *hydrargyrum cum creta*, of calomel, or of *oxydum hydrargyri cinereum*. Recollect that you must be very careful in administering mercury to weak, broken-up subjects. They bear mercury very ill ; and if ptyalism be produced, you are sure to find the symptoms of the local inflammation aggravated ; but if you give one, two, or three grains of either of the preparations I have mentioned, with extract of rhubarb, it will operate very favourably. It should be followed the next morning by a purgative draught, composed of infusion of rhubarb, or infusion of senna, or a little cold-drawn castor oil. These will regulate at the same time the state of the liver and the bowels. A very important point also is to attend to the skin. The patient should use a bath of the temperature of 96° Fahr. twice

or thrice a week ; he should sit in the bath a quarter of an hour, and then the skin should be well soaped ; this should be washed off ; and, lastly, the skin should be well dried. Friction of the skin may afterwards be employed. The patient should breathe a fresh atmosphere. Nothing maintains chronic inflammation more than a close atmosphere. This treatment, if the mind be kept at rest, you will find more effectual in chronic inflammation of the fauces than any other means. All the local treatment necessary in these cases is the application of a few leeches to the throat in the first instance, and, if the inflammation continue, the application of a blister to the nape of the neck. A blister in chronic inflammation of the throat is often very beneficial, especially if leeches have been first applied. It should be remembered that this chronic inflammation is very apt to return whenever the stomach, liver, and bowels, are affected, and when the skin is affected as by cold. The clothing should be comfortably warm, and the diet should be attended to : these are the best preventives. A gentleman attends these lectures who has been very subject to what is called *cynanche tonsillaris*, both in the acute and chronic forms: he tells me that he has found drinking cold water every morning and washing his neck with cold water very useful in preventing an attack. Females are, upon the whole, less liable than men, to attacks of *cynanche tonsillaris*. When men in the Fever Hospital were convalescent, and their necks were exposed, severe affections of the throat were common; but since I have ordered a common neckcloth to be made use of, no attack of the kind has arisen. Exposure of the neck in females accommodates it to surrounding circumstances, and circulation goes on very well. A gentleman once asked a highlander in the dress of his country, how his legs and thighs felt. The answer was, "How do your cheeks feel?" They were warm from the habit of accommodation to surrounding circumstances ; and so it is with the necks of the ladies. This chronic inflammation of the fauces sometimes becomes suddenly acute or sub-acute ; and in broken-up habits you must be careful not to abstract too much blood if only the tonsils be inflamed. If you bleed too largely, these patients, as I have several times seen, are apt afterwards to become tabid, and universally strumous. Apply leeches first, and then open the bowels freely ; and afterwards give a mild emetic ; employ an acid gargle ; regulate the temperature ; and adopt a bland diet.

Among the various other affections of the throat which are exceedingly common, I may here say a few words with regard to —

SYPHILIS.

Syphilis appears under three forms:—1. Under a primary form. 2. Under a secondary form. 3. Under a ternary form. The only effectual way to avoid these, is to avoid the obviously exciting occasion; but there is no point on which man is so weak as this. I have known several individuals excessively dissipated among women, who have by adopting certain precautions avoided both chancre and gonorrhœa. They were extremely cleanly, and after indiscriminate intercourse they used soap and water twice or three times, and two or three clean towels. I know one individual who had been several times the subject of gonorrhœa and chancre, but who had never had an attack after he adopted this plan, although he continued equally dissipated. I think it is almost a complete preventive.

SYMPTOMS OF PRIMARY SYPHILIS.

Primary syphilis appears under the form of chancre. Chancre is a small, circumscribed sore, extending from the point first affected in every direction in the surrounding parts, and which, when completely formed, appears as if a piece of the part affected had been scooped out: it has a hardened, abrupt, and elevated edge; a hard circumscribed base; and a foul bottom, to which matter adheres without any appearance of a granulating surface. It affects the prepuce or glans in males, and the labia or nymphæ in females, and the glands in both, for it is often followed by bubo.

SYMPTOMS OF SECONDARY SYPHILIS.

Secondary syphilis attacks the skin or the throat; in short, it attacks the soft parts.

The syphilitic inflammation of the throat is of two kinds.

1. In some individuals you will find there is a dull and erythematic inflammation about the fauces, with superficial ulceration. This form of syphilitic inflammation is remarkably distinguished by the dull red, coppery hue of the part, and if you contrast this with the appearance of common inflammation of the parts, you will see a remarkable difference. There is a dirty-whitish purulent secretion from the ulceration, and a secretion of tenacious mucus from the fauces; the patient has also a thick nasal sound when he speaks.

2. There is another form of ulceration of the throat which is syphilitic. First chancre occurs, and then one of the kinds of eruption on the skin which I shall presently mention, and then comes the affection of the throat. This also has the same copper colour, but the ulceration is not superficial; it is deep, as if a portion of the throat had been dug out by a rough instrument. The ulceration has a hard, smooth, and defined edge generally, and sometimes a foul, rough bottom. The shape of this ulceration is peculiar; it is generally either oval or round, and the surrounding inflammation is of a dull copper colour. When this ulceration affects the soft palate, it generally penetrates to the bones of the palate.

You should trace the history of cases of this kind backward. If, for instance, you learn that, three months before, the patient had a chancre, you will find that before the affection of the throat he had an affection of the skin. Sometimes the sore throat occurs sooner, sometimes later, after the healing of the chancre or bubo. When it occurs, the general health gives way: there is a more sickly hue about the face and eyes, with a dirty withered appearance of the skin; in some cases iritis occurs; in others, the conjunctiva covering the cornea becomes opaque, so as to give the cornea a turbid appearance.

Affections of the skin of a syphilitic kind are various, but three forms which I shall mention are most common:—1. A papular eruption; 2. A scaly eruption; 3. A tubercular eruption. One or other of these eruptions, and sometimes all of them, generally precede the affection of the throat. Sometimes the papular eruption occurs, and it seems chiefly seated in the papillæ of the skin; this disappearing, is succeeded perhaps by the scaly eruption, which in turn disappears, and is followed by the affection of the throat, and, perhaps, the tubercular eruption. Whether the eruption be of the papular, scaly, or tubercular kind, it always has the coppery colour.

SYMPTOMS OF TERNARY SYPHILIS.

Ternary syphilis affects the hard parts: generally the periosteum; sometimes, I believe, the bone itself. It is a common opinion now that syphilis does not affect the bones unless mercury has been given; but this I am sure is a mistake, as I have seen the bones affected where no mercury has been taken. I saw a young man who had secondary symptoms following primary syphilis. He had a diffused, copper-coloured, erythematic inflammation, with superficial ulceration of the throat. He was of a strumous habit, and would not bear mercury,

nor did he take a particle of it. He received a blow on his temple, which was followed by a node, by inflammation of the periosteum, and a copious effusion around the part. And sometimes these effusions are very hard. I believe that most of the specimens shown in the museums of the older surgeons, as instances of syphilitic caries of bone, were caused by the great quantity of mercury patients were accustomed to take; but, on the other hand, caries of the bone I am certain does occur independently of the use of mercury.

Remember that affections of the bone in syphilis are very often mistaken for rheumatism. During the last year I saw two cases (which I mentioned in a former lecture, Vol. I. p. 55,) of individuals who for a long time had been affected with what they denominated rheumatism. One of them complained of rheumatic pain of the head, connected with an affection of the bone and periosteum, though no mercury had been taken. The other complained of rheumatism in his right leg, and upon examining the skin I found a syphilitic node. On tracing back the history of the case, there was chancre, and then the skin and throat became affected, and then the ternary symptoms appeared. If you attend to the previous history of these cases, you will find it a valuable guide to an accurate diagnosis. The parts most liable to nodes are the head and the upper and lower extremities.

SYMPTOMS OF PSEUDO-SYPHILIS.

What is called pseudo-syphilis, with a very few exceptions, I am confident is nothing but syphilis occurring in an individual of a bad habit. If the strength be broken up, if the patient be strumous, and especially if the liver be affected, pseudo-syphilis will occur:—the patient has morbid secretions, and torpid or irregular bowels; he has sloughing ulcerations, a furred tongue, general emaciation, and the case degenerates into what has been called pseudo-syphilis. Perhaps we might except a few cases of common ulceration of the throat where mercury has been given, and where sloughing has occurred. Syphilitic ulceration sometimes spreads along the mucous membrane till the larynx is implicated.

SYMPTOMS OF CHRONIC INFLAMMATION OF THE LARYNX

are denoted by the same symptoms as acute or sub-acute inflammation of the larynx, with the exception of fever, which in chronic inflammation is but slight, and sometimes is entirely absent; the voice be-

comes a hoarse whisper; the patient complains of pain on pressure of the larynx, on that part which is prominent in males; he has a peculiar, frequent, and spasmodic cough, with a peculiar limited sound, reverberating in the larynx, altogether different from that which occurs in inflammation of the trachea or bronchia. The sputa generally contain pus; there is mostly a considerable secretion of mucus at first, in which, after a time, you will generally find more or less pus; it is in small quantity at first, and increases as the disease goes on. There is also a remarkable emaciation, so that the affection assumes the character of phthisis pulmonalis. I shall draw the diagnosis between them, when I speak of consumption. Sometimes there is ulceration in the larynx when the patient remains plump, and there is little alteration of the voice. A gentleman attending these lectures showed me a preparation, in which ulceration was found in the larynx of a patient of a full habit, and who died of it unexpectedly. This chronic inflammation of the larynx sometimes arises from common occasions; it is most apt to do so in strumous subjects; and with the exception of the coppery hue, the symptoms are the same. This chronic inflammation sometimes becomes acute or sub-acute; the patient has the symptoms I have before mentioned, with a hot skin and a quick pulse, and dies with great rapidity. As far as I have observed, these cases of acute or sub-acute inflammation supervening on chronic inflammation are invariably fatal.

MORBID ANATOMY OF CHRONIC INFLAMMATION OF THE LARYNX.

On examination after death of persons who have had chronic inflammation of the larynx, you find thickening and ulceration of the lining membrane of the larynx, covered with pus containing small patches of lymph.

SYMPTOMS OF SPASMODIC AFFECTIONS OF THE LARYNX.

1. There is a spasmodic affection of the larynx, to which I formerly alluded (Vol. I. p. 282), and which sometimes occurs before a fit of hysteria or of epilepsy. There is no inflammation about the throat nor any fever; the epigastrium and bowels are distended, and there is borborygmus, with pain on pressure over the pyloric extremity of the stomach.

2. A similar spasmodic affection attacks infants. I think I have seen several cases of death from this affection in children. It is gene-

rally connected with flatulence of the stomach and disorder of the bowels when it occurs in infants.

3. Hysterical women often have a chronic cough, in which there is a strange, loud, clanging, reverberating sound in the larynx, somewhat resembling that of croup. Investigate the case, and you will find that there is no expectoration, that it goes and comes sometimes very suddenly, and that the patient's health has been good for a long time. This is a cough at which you need never be alarmed. An old adage says, "Least said is soonest mended;" and this is the case with hysterical women: if you disregard them the disease will cease; but if you talk of their complaints or sympathise with them, it is sure to be protracted for weeks, and months, and even years. The best plan is to regulate the bowels and the diet, and to take no notice of them.

4. Loss of voice sometimes continues for three or four weeks. It is an affection of the larynx, either primary, from cold, or secondary, from disorder, of the nervous system; for instance, from strong mental emotion.

SYMPTOMS OF CHRONIC BRONCHITIS.

With regard to chronic bronchitis, it affects children and persons of middle age, but especially it affects old persons. In young subjects it is occasionally the sequel of acute or sub-acute bronchitis, whooping-cough, measles, small-pox, and even of typhus. It is denoted by the symptoms which occur in acute bronchitis, except fever; the breathing is more or less difficult, and is attended by a peculiar wheezing or, purring, rattling, stuffing noise, or a noise resembling the rustling of the wind among dry leaves, diffused over the whole chest, but sometimes confined to one lung. The patient has a frequent cough, with a diffused, loose noise, in which the sound I have mentioned is very distinct, and it is accompanied by a copious expectoration, which is sometimes purulent, but generally consists of morbid mucous: it becomes more and more opaque in the worst cases, but more transparent as the affection is relieved: each patch runs into another till the whole forms one mass, which in consistence resembles a mixture of the white and yolk of an egg, though the colour is not the same; the lip is always dusky; the cheek, in persons who have a colour when in health is dusky, but in those who are usually pale, it is of a leaden hue. You may generally hear the purring, wheezing noise when the patient is asleep better than at any other time. The mucous accumulates in the bronchial passages during sleep, and the expectoration is

most copious in the morning, after which the patient remains more or less easy until a fresh accumulation occurs, when he coughs and again is relieved. Sometimes fever is present, but generally it is absent. If the patient gets cold, for instance, he has fever, and the chronic bronchitis becomes acute or sub-acute; and many cases of acute or sub-acute bronchitis are of this kind. It is of very great consequence in chronic bronchitis to prevent the supervention of acute or sub-acute bronchitis; for when this does occur the case is more difficult of cure than a simple attack of acute or sub-acute bronchitis. The best means of prevention, are, to keep the surface warm by regulating the clothing and the temperature of the patient's room when the weather is cold. From neglecting these circumstances patients die very frequently, generally from attacks of acute or sub-acute supervening on a chronic bronchitis. If you refer to the newspapers during the cold season, it will be seen that numbers of old persons are dying suddenly: if these old persons would be content to keep within doors, in a regulated temperature, and use warm clothing, they would generally pass through the winter comfortably.

Chronic bronchitis of children generally resembles croup or catarrh, and in these cases a chill should be carefully avoided. In some cases the trachea becomes inflamed, and sometimes the larynx; this is especially the case in catarrhal epidemic. Many individuals go about with a stuffing noise when they breathe, with a dusky cheek, some degree of harshness in the voice, and a shrill noise when they cough: in many of these cases the stomach and small intestines are affected; the tongue is red at the tip, and a dirty-white yellowish fur is in the centre of it: there is irritation of the stomach, and the stomach with the small intestines and liver is implicated with it. This chronic bronchitis has been known under various names; it has been called catarrhus senilis, humoral asthma, &c. The patient goes about, and expectorates large quantities of phlegm; and hence it was called humoral asthma by our systematic writers, to distinguish it from what they term spasmodic asthma.

MORBID ANATOMY OF CHRONIC BRONCHITIS.

The mucous membrane of the bronchia is loaded with blood; the lungs are almost invariably distended, and their elasticity is lost, so that they retain a pit on pressure: sometimes portions are hepatized. In old persons there is sometimes dilatation of the aorta as it leaves

the left ventricle and sometimes aneurism of the arch of the aorta, or of the arteria innominata.

SYMPTOMS OF SPASMODIC ASTHMA.

Spasmodic asthma, as it has been vaguely called, is remarkable chiefly for the return of the fits attended by a difficulty of breathing. It is more or less periodical usually, and occurs generally in the morning; the face is then paler and the skin is then cooler than natural; the patient feels a sense of stricture across his chest; considerable pain about the throat; a dry cough—a cough with no expectoration; the ribs are then more elevated than natural; the chest is more expanded than usual, from the muscles being secondarily affected by the irritation of the air-passages; and women at this time are conscious of being stouter than usual. This state goes on generally for some hours, and then the skin usually becomes warm, and soon after this expectoration begins; the patient has a wheezing, like that which is heard in chronic bronchitis, till at length by expectorating he becomes as comfortable as before the fit occurred. Many individuals who have had humoral asthma, and some who have had no such affection, are suddenly seized with spasmodic asthma. When fever is present, it bears the character of bronchitis in the acute form, and it is, pathologically considered, the same thing. Sometimes the fit returns in one, two, or three months; sometimes oftener; sometimes once a-year, at certain times; sometimes in the summer; but more frequently in the spring, and autumn, and winter, when the weather is more variable. In some individuals it is brought on in certain situations; sometimes it is alleviated by certain situations. I know a young lady who had spasmodic asthma, which left her, and then she had a slight degree of humoral asthma. She had tried various situations in order to obtain relief, but had found none that exactly answered her expectations. One day, while she was walking up a pleasant lane, she found that in a given space her breathing became more comfortable; it fortunately happened that in that given space there was a farm-house, at which she took lodgings, and became more comfortable than before; this was not more than a mile and a half from her own house. Remarkable relief is obtained sometimes by breathing the thick London atmosphere; some find more relief by breathing a dry clear atmosphere. In certain persons the attack is brought on by particular smells, either disagreeable or pleasant. I know a lady in whom the smell of new hay produces an attack.

With regard to the—

PATHOLOGY OF SPASMODIC ASTHMA :

it is invariably attended by more or less inflammation about the bronchia; the skin is generally morbid: it is more pale or more dry than natural; very frequently the stomach, liver, and bowels, are out of order. You frequently find in the subjects of spasmodic asthma that there is organic disease of the liver. Almost constantly there is organic affection of the heart or large vessels: there is a degree of dilatation of the arch of the aorta, just as it arises from the left ventricle, with puckering of the lining, and opacity of the valves of the left ventricle, from a degree of earthy deposition. Most affections of the lungs wind up at last with some affection of the heart. Whether in this case the affection of the heart is primary or secondary I cannot say: in all probability it is sometimes primary and sometimes secondary.

I shall now notice the treatment of the affections of the fauces and air-passages of which I have been speaking; and, first, of the—

TREATMENT OF PRIMARY SYPHILIS.

There was an opinion prevalent not long ago, that primary syphilis could not be cured without mercury. It can, however, be cured by ordinary means; and it is remarkable that any doubt should have existed on the subject; for in hot climates all forms of syphilis have been cured without mercury. Hennen, in his work on the Principles of Military Surgery, has collected facts which alone are sufficient to put the question at rest; and some very valuable facts have been published by Mr. Rose which bear upon the same point. A particular friend of mine, Mr. Alcock, has cured many cases of chancre without mercury. His mode of treating chancre is this:—he makes a saturated solution of sulphate of copper, which he applies to the chancre by means of a camel-hair pencil, and thus makes an eschar. If after the eschar has separated the sore has a common character, he treats it as a common sore; if it has still the characters of a chancre, he makes a second eschar, and so on till the sore assumes a common character; and then he dresses it with common simple ointment. In the mean time he regulates the diet and other parts of the general management. He has had an opportunity of observing several cases for some years, and never in one case thus treated has secondary syphilis occurred. There may be a point of doubt as to the time of treating chancre.

No doubt the syphilitic matter is first formed in the chancre, and is then absorbed; and we want to know how long chancre occurs before absorption takes place. Knowing this, we may know in what cases to use mercury, and in what cases we may obtain a cure without it. The army surgeons cure chancre without mercury, and yet no secondary symptoms occur. One thing of great importance is to adopt a strict regimen—what has been called the antiphlogistic regimen. Either the primary, secondary, or ternary, forms of syphilis may be cured by the ordinary means which remove inflammation. One great error committed by patients under syphilis is the use of stimulants, by which the disease is maintained. I have no experience in curing chancre without mercury. It is generally considered a surgical case; and therefore I have scarcely had a single patient with primary syphilis since I have been in London. I had many cases when I was in the country. I kept the mouth gently affected with mercury ten or fourteen days, the temperature of the apartment being carefully regulated during that period. This plan, with attention to the diet, being adopted, secondary symptoms did not supervene.

TREATMENT OF SECONDARY SYPHILIS.

Of the secondary form of syphilis I have seen several cases since I have been in London, and I have also seen many cases of the ternary form. The best mode of treating secondary syphilis is by an attention to what I call the general management; by adopting a bland and spare diet, supporting the strength without exciting the system at all, avoiding stimulating drinks, and attending to the state of the skin, by using a warm bath occasionally. Attend to the exercise, which should not be carried to fatigue; and attend to the sleep, which should be sought by going to bed regularly at an early hour. These points of general management are very important; there is in them, united with medicine, a combined efficacy which is not to be found in medicine alone; and you will succeed by them in almost every case if you adopt mild means. The two medicines which are of greatest importance are infusion of sarsaparilla and very small doses of oxymuriate of mercury, or of blue pill: give one-twenty-fourth, or one-sixteenth part of a grain of oxymuriate of mercury for a dose, with twelve ounces of infusion of sarsaparilla in the day; or infusion of sarsaparilla, and blue pill every other night. This plan requires to be adopted for three months; and if during this time the patient commit any errors as to his diet or drinks; if he expose himself to cold, or

sit up late at night, it is surprising how soon the symptoms will return. If these rules be attended to, the disease will rarely again supervene.

TREATMENT OF TERNARY SYPHILIS.

The ternary symptoms require the same treatment. I have seen many cases of patients under ternary syphilis who have been very much emaciated, where this treatment has had the happiest effects. One exception only occurred, where mercury could not be taken, as it invariably disagreed with the patient, and he got well by attending to the other means of treatment which I have mentioned. At one time I was inclined to be sceptical about the benefit derived from sarsaparilla; but I have seen such decidedly good effects, particularly from the red Jamaica sarsaparilla, which I think is the best kind, that I have changed my opinion; and several friends of mine have told me that they have seen it very useful. One drachm of the extract may be taken three times a day when the stomach loathes a large quantity of fluid; otherwise an ounce and a half of sarsaparilla may be infused in a pint of cold water, and this quantity may be taken in twenty-four hours. When the patient takes blue pill you may make the infusion in lime water, but not when the patient takes oxymuriate of mercury.

When ulceration affects the larynx in syphilis, the same treatment is required, with the addition of the application of leeches or a blister to the throat, gargles of tepid water, an occasional tepid bath, bland diet, and mild aperients.

TREATMENT OF CHRONIC INFLAMMATION OF THE LARYNX.

When chronic inflammation from a common occasion occurs in the larynx, the same treatment is necessary, with a regulated temperature of about 60° to 65° Fahr., which I omitted to mention as a point of great consequence in ulceration of the larynx from syphilis. In common ulceration of the larynx great benefit will be derived from occasioning nausea by ipecacuanha; in all other respects treat it as if arising from a syphilitic taint. If it should spread into the trachea, assuming the form of chronic croup, with laborious and uneasy breathing, and high heat, general bleeding must be employed if the patient be robust, local if he be weak; afterwards the bowels should be opened, and then a blister applied. Free ventilation and regulated temperature are also important. When there is a hacking cough, and

especially at night, a full opiate may be required. Those medicines are most beneficial in these cases which act simultaneously on the bowels and on the skin.

TREATMENT OF SPASMODIC AFFECTIONS OF THE LARYNX.

The spasmodic affection of the larynx which occurs in infants I have seen relieved by stimulants. It is surprising how rapidly a small quantity of a stimulant will relieve the flatulence in the stomach of an infant,—a small quantity of brandy, or a drop or two of tincture of assafœtida, or a little carbonate of ammonia: perhaps, on the whole, brandy is the best. I have seen adults after writhing in pain from distention of the stomach, and abdomen for hours, instantly relieved by taking about one-third of a glass of brandy with a small quantity of opium. When I eat a meal hastily I become subject to very severe pain in the stomach, with very considerable fulness, and am relieved in five minutes by half a glass of brandy. The pain consists in a gnawing sensation and a feeling as if the food were pressing against and irritating the pylorus, which I have no doubt is the case. In infants a single drop of tincture of assafœtida or a drop or two of brandy, will relieve that flatulence, which throws them into convulsions, or a spasmodic affection of the larynx. When the voice is lost, from alarm, &c., emetics are often useful; and when it arises from chronic laryngitis, occasional emetics will lessen the inflammation, and prevent it passing on to ulceration.

TREATMENT OF CHRONIC BRONCHITIS.

In chronic bronchitis act on the bowels so as to procure two or three moderate evacuations from them in twenty-four hours; and at the same time act upon the skin, confining the patient in apartments of a regulated temperature. These two things are of more consequence than any thing else; and if they be persevered in the affection is always greatly alleviated, and sometimes totally disappears. I saw a man of colour who, after having been asthmatic for years, left the Fever Hospital without a trace of it, from adopting this plan. Adopt a bland diet when the patient labours under chronic bronchitis with any fever, with rest, and the use of gentle aperients and mild sudorifics. Be exceedingly careful in these cases about the abstraction of blood. I believe that one of the most serious and most common errors which I committed in the early part of my practice was the abstraction

of blood in inflammation of the bronchia. Several friends of mine, for whom I have great respect, differ from me in this point; but to judge from the result of my own practice, I have been infinitely more successful by adopting the treatment which I formerly laid down than when I trusted mainly to the lancet: the only rule which I can lay down for you to adopt as to blood-letting, is to bleed moderately if the skin be hot and the pulse expanded; but beware of large bleedings if the pulse be not expanded and the skin not very hot. Avoid blood-letting when the disease attacks old persons. Emetics are very useful when there is no affection of the head or heart. I have seen several instances where old persons have sunk with great rapidity from being nauseated with squill or ipecacuanha. Perhaps no expectorant is so good on the whole as ipecacuanha, when it produces nausea: but the remaining vigour of life seems in old persons to be seated in the stomach; and if you sink the powers of the stomach, they are apt to die very suddenly.

TREATMENT OF SPASMODIC ASTHMA.

One great advantage of understanding the pathological conditions with which diseases are connected is, that we are enabled to treat the symptoms by a reference to those conditions. Spasmodic asthma is set down in our systematic books (which contain little or nothing of modern pathology, and are a disgrace to the country and age in which we live,) as a mere collection of symptoms; and this necessarily leads to an empirical treatment. If a man have pathological knowledge he can separate possibilities from impossibilities; and if he can do no good he will avoid doing harm, which is an important point. The treatment of spasmodic asthma is extremely empirical, and sometimes exceedingly dangerous, tending considerably to shorten the patient's life. When spasmodic asthma has continued for some time, I believe there is organic disease about the heart and large vessels; therefore, let me caution you against doing too much. You may alleviate the symptoms, as I shall afterwards show, and protract the patient's life extremely. In periodical spasmodic asthma I have known change of place or scene have great influence,—especially I have known sailing keep off an attack; but this is a hazardous experiment, for if the patient be very sick at sea, the affection of the heart is apt to be aggravated. On this account always avoid emetics in spasmodic asthma, as they tend to aggravate the affection of the heart. Two things are generally very beneficial:—1. Quietude of body; 2. A fresh,

bland, atmosphere. If the patient combine with rest in a bland atmosphere, strict regulation of the diet, gentle action on the bowels, and gentle action on the skin, he will generally do all that can be done in relieving spasmodic asthma with organic disease. If there be uneasiness in the region of the liver; or if the secretions of the liver be morbid: if you find the stools whitish, if you find them dark, like resin, or black, like tar, you may give a little calomel, or hydrargyrum cum cretâ, or blue pill, every other night, with gentle aperients, till the secretions are healthy. I have lately attended a veterinary surgeon, who has organic affection of the heart. His liver was very much disordered; and by attending to the state of the liver, he obtained great relief, although he has still great difficulty of breathing. If you be called to a patient with spasmodic asthma, exercise the same degree of caution as in chronic bronchitis with regard to blood-letting. If the heat be high and the pulse expanded, abstract a moderate quantity of blood; adopt a bland diet, a regulated temperature, mild aperients, and gentle sudorifics; and if this means be persisted in, the symptoms will gradually abate. Afterwards avoid the exciting occasions, in order to prevent the violence of the returning disease.

During the paroxysm immerse the patient in a tepid bath, and give him a dose of opium in hot water.

In all spasmodic coughs, I do not know why, I have seen prussic acid very beneficial; and in no other coughs has it been serviceable in my practice. I have seen it relieve whooping-cough, and I have seen it relieve spasmodic asthma.

Galvanism has been recommended very much lately in spasmodic asthma; but if you refer to the organic disease of the heart, you will see the necessity of caution in adopting it. I have seen a patient become decidedly worse after it, from its exciting the heart's action. If it could be used without exciting the heart's action, it might be beneficial. I saw a lady who tried it, nearly die from the violent shock to the heart.

LECTURE LIII.

PREDISPOSING AND EXCITING OCCASIONS, PREVENTION, SYMPTOMS, MORBID ANATOMY, AND TREATMENT, OF CONSUMPTION.—HÆMOPTYSIS.—CHRONIC INFLAMMATION OF THE LUNGS AND PLEURA.—EMPHYSEMA.

IN this lecture I shall make some remarks upon pulmonary consumption, or the disease commonly called phthisis pulmonalis.

PREDISPOSITION TO CONSUMPTION.

1. Inherent.

1st. There can be no doubt in the world that phthisis pulmonalis is an hereditary disease; or, rather, that the tendency or liability to it prevails very remarkably in particular families. I am quite certain that tubercles, or the seeds of consumption, are born with individuals. On examination I have found them in the lungs of infants who have died shortly after birth; and I have even found them in infants at the breast when they have died suddenly of some acute disease. I have mostly found them in infants whose health has been depraved, either from their birth or shortly afterwards. Those who have fair skin and fair and soft hair, are, upon the whole, most predisposed to tubercular diseases; but I have seen many individuals who have had dark hair and dark complexions, and who have died of tubercular diseases. It has been said that individuals who have narrow chests are most predisposed to consumption of the lungs. I have again and again seen it occurring in persons with very expanded chests. Upon the whole, it appears that it is most prevalent in chicken-breasted individuals, who have long necks and soft hair and long eye-lashes.

2d. Consumption prevails most at particular ages—between the ages of twelve and twenty-five, or between fifteen and twenty-five. It very often occurs at an earlier period, especially in the emaciated children in London, who breathe an impure air, and whose food and clothing are neglected. It occurs also at a much later period. I am now attending the father of a large family, who lost his wife and several

children by consumption: he is upwards of fifty years of age, and is now the subject, and will shortly be the victim, of consumption. I attended the wife of a medical man, who was about fifty years of age, and she died of consumption. I am at present attending the house-keeper of a gentleman, and she is nearly fifty years of age, and is most distinctly affected with tubercular consumption. There generally is one remarkable difference in tubercular consumption in young persons and in old persons, as to its duration. In young persons it runs a more rapid course than in old persons. In persons after the fortieth year it goes on very slowly indeed, not terminating in less than twelve or eighteen months; but in individuals under the twenty-fifth year it usually runs a more rapid course. There is, however, one exception to this. If tubercular consumption attack a person "on 'vantage ground;" if, in fact, it be an individual who has been much wasted or exhausted by previous disease or any other cause, it then often runs a remarkably rapid course. I have seen several cases in the Fever Hospital where consumption has occurred after an attack of typhus fever, and in three weeks from its very commencement has run its course. This is the most rapid form of consumption I know of. It is remarkable for its rapidity; and it is remarkable for the extreme offensiveness of its expectoration. The tubercular sores are very ill-conditioned, and this probably arises from the exhausted state of the patient. It depends perhaps on the atmosphere which the patient breathes in some cases; for I have observed, in such cases, that the matter is more offensive while the patient is in a confined than when he is in a fresh atmosphere; and the air which persons breathe does materially influence the secretion from sores.

2. I believe, however, that consumption, or rather, the tendency to it, may be acquired.

I am strongly inclined to believe that tubercles are formed *de novo*, from a combination of circumstances. I have seen a great deal of morbid anatomy; I have cultivated it from a sense of duty as a lecturer, and for the sake of my own improvement;—for I see, as every reflecting man must, the necessity of making every possible addition to my stock of information;—I have therefore, I say, taken every opportunity of making minute dissections and *post mortem* examinations, and nothing has struck me more than the tubercles in the bodies of tabid children who abound in the highest and in the lowest classes in London; in the lowest classes, because the diet is too spare, because they breathe a bad air, and because the clothing is deficient; in the higher ranks, because the diet is complicated, because the clothing is

deficient, and because the habits even of the children of this class are dissipated. I have been remarkably struck with the fact, that, die of what disease they may, you are sure to find tubercles, which is a very remarkable circumstance. You find these tubercles in the lungs, in the liver, in the pleura, or in the peritoneum. It does appear to me that they must be formed *de novo*. The only objection to this is, that there are children wasted to the last degree of emaciation, and yet no tubercles are found after death. Not long ago, I saw a child which died of chronic inflammation of the brain, winding up by an attack of fever; and on examining that child, not a single tubercle could be found in any part of its body. This is an exception to a general remark.

1st. One thing is quite certain, which is, that every thing which tends to break up the general strength either fully developes them if they already exist, or produces them *de novo*. All these occasions pave the way to the whole class of tubercular diseases. This is one of the most common remote occasions I know of, and its importance is very great with a view to prevention. I will mention some cases which occurred in a family with whom I was very intimate. When I was a very young physician, I was consulted by this family, on one side of which consumption had prevailed from generation to generation. I was aware of this fact, which had been long impressed upon me, and I therefore pointed out all the circumstances likely to produce the disease; these circumstances they did not avoid. The family were at Florence, and one daughter was very intent upon her improvement in drawing, and devoted a great deal of time to it. The family remained at Florence after the hot weather had set in: this lady, from the extremely ardent heat, and from the intensity of her application to her favourite study, became excessively exhausted. In this state a short hacking cough arose, a cough so slight as not to alarm the lady's mother. At length, however, she was removed with the family to Rome, and placed under the care of my friend Dr. Clarke, who removed her to England, and I attended her with him; and she died consumptive. In the winter of 1821-2, which was a very mild winter, the same family were in Scotland, and another daughter became what is called dyspeptic. She continued in this state for some time, when a short hacking cough arose, so trifling as scarcely to alarm her mother, who at length, however, did become alarmed, and brought her to London, to consult me about her. She then had confirmed consumption; the expectoration had all the characters of that of genuine tubercular consumption, and I thought her in a very dangerous state, as I knew nothing which would cure confirmed consumption. I recommended further advice upon the

subject; and Dr. Baillie, who was called in, took the same hopeless view of the case; and she died. The same family, after this, removed to the south of France, where the eldest son was affected with rheumatism. A physician ordered fifteen or seventeen (I do not exactly remember which) leeches to be applied in the evening; they were applied, and bled profusely all night; one cloth, and then another, was applied, and so on till the family became alarmed at not being able to stop the blood. By these leeches he lost probably more than forty ounces of blood; he sunk into a state of extreme exhaustion, and a hacking cough arose. The family immediately removed him to London, where I saw him labouring under confirmed consumption, and he is now attended by my friend Mr. Abercrombie, in Scotland. Here, then, are three members of the same family affected by consumption from different remote occasions; but one thing was common to all the occasions—that they broke up the general strength. With a view to prevention, if you maintain the general strength in the children of families where consumption prevails, and also in adults, you will prevent the occurrence of the disease; break up the general strength, and the disease will be developed. This shows how cautious you should be in the use of active measures in consumptive families when they have other diseases, unless the disease be one of vital importance.

2d. The next cause that predisposes to, or excites consumption, is what is called cold, a low or variable temperature. Consumption prevails most in countries where the atmosphere is variable. It is remarkably prevalent in this country, where the atmosphere is notoriously variable.

3d. Another occasion which predisposes to it, or excites it, is local irritation: any local irritation set up, especially in the lungs, may excite consumption in a subject hereditarily predisposed. It is a question whether consumption be generated by specific contagion. The Italians are decidedly of opinion that consumption is a contagious disease, and avoid a consumptive person as they would one labouring under small-pox. I have seen some facts which incline me to believe either that the same disease does originate from specific contagion, or that the matter expectorated from the lungs of an individual under confirmed consumption acts as an irritant on the air-passages. A medical man came from Scotland labouring under consumption, and consulted my friend Dr. James Johnson and myself. The history of his case was this: he made a dissection of the body of a lady who died consumptive; and being short-sighted, he held his eyes, and consequently his mouth, near the lungs during the examination. He felt a

disagreeable stench, which he could not get rid of; and that very night a cough arose, which never left him from that time till he came to London, and then he was certainly in a state of confirmed consumption. One solitary case would not be sufficient proof, but I have seen others bearing upon the same point which incline me to conceive, that the odour of matter in the lungs of an individual who is consumptive operates either as a specific poison, or as a local irritant, I do not know which, and excites consumption in those who are predisposed to it.

Let us return to the occasions, more particularly the first class of occasions,—those which break up the general strength. These are very important; for, that they act not only as predisposing, but as—

REMOTE OCCASIONS OF CONSUMPTION.

is very obvious, from the three cases which I mentioned; and I could mention several more in illustration of the effects of—

1. Copious evacuations in exciting consumption. I saw a gentleman some time ago labouring under inflammation of the lungs; and the surgeon who attended him told me also that he was of a consumptive stock. The inflammation of the lungs was removed by evacuations, which were not carried far. The surgeon and myself mentioned to the father that some other disease might probably arise out of this, and asked him whether he would like to have further advice. He seemed surprised, but agreed to have the advice of another physician. Dr. Baillie, the first time he saw him, was inclined to think that every thing was going on well. In two or three days, however, a short hacking cough arose, which passed on to confirmed consumption, of which the patient died. I saw a young man, who was a particular friend of mine: he was of studious habits, and of good fortune, and being rather of an ambitious turn of mind, he became a member of Parliament; and I am convinced that he would have been one of the most conspicuous individuals in that assembly if he had lived. I cautioned him again and again against doing too much; but he used to sit up at night, to inform himself upon all the complicated points which came before the house. He had an attack of cough, for which a practitioner bled him largely. His strength was broken up by night-watching and this loss of blood, and he became consumptive, and died. One of the most beautiful women I ever saw died consumptive after a copious uterine hemorrhage. Large losses of blood break up the strength very much, and when the least predisposition to consumption exists, it is very apt to supervene.

Mothers become thus consumptive by suckling their children too long, and losing their rest at night: a short cough arises, and they have evident emaciation; and if these be neglected in the onset they often pass on to consumption. Mothers who have a tendency to consumption should never suckle their children long. In nursing too they are apt to get wet; this they should avoid by wearing an apron of oil silk, which, to prevent it sticking to the clothes, may be lined with common silk. And here I may observe that this is a very good plan to adopt at night when a child sleeps with its mother. This is also a very good plan when individuals become so weak that they cannot with safety get out of bed to pass their fæces. A piece of flannel, on which the patient may lie, is to be placed above a large piece of oil silk; this may be removed when necessary, and the flannel washed and another piece substituted in the mean time, and thus the patient may be kept remarkably comfortable.

2. Night-watching is one thing which breaks up the strength remarkably. If you be called, therefore, for example, to a young lady who is consumptive, and who has two or three sisters, never allow either of them to perform the office of a nurse for the patient; if you do consumption is almost sure to follow. I have thus seen two or three persons in one family dying, one after another, from the combined effect of anxiety of mind and night-watching on persons predisposed to consumption, independent of the inhalation of the odour from the patient's breath. I advise you for one of these reasons never to allow any person to sleep with a consumptive patient. Never allow any of the relations to perform the office of the patient's nurse: if they do they are in very great danger of an attack of the disease. Such relatives should always go to bed very early. The grand thing in the prevention of consumption is to institute regular habits of general management, which ought on no account to be neglected.

3. Another condition which breaks up the strength is disorder of the stomach, liver, and bowels; and this is one of the occasions very often of phthisis pulmonalis, and we cannot be surprised at it.

1st. When chylication and digestion are depraved (for assimilation is the last process), blood is not wholesomely formed, and the body wastes for want of support; for the blood is the food of the body. This state may go on, and this is the most common way in which disorder of the stomach, liver and bowels, produces consumption; but it operates sometimes—

2d. By exciting the heart: by making the blood circulate around the body more rapidly than natural; and—

3d. By creating a local irritation, thus constituting sympathetic inflammation; and this irritation may call tubercles into actual existence.

4. There is one remedy which is very much, very indiscriminately, and very empirically, used in chronic diseases, especially those which are supposed to be hepatic; I allude to mercury. I advise you never to allow a patient whose mouth is sore from mercury to go into the open air. In persons of a consumptive stock, the administration of mercury demands consideration. It very often induces consumption, and that in two ways; 1st. By exciting the circulation; and 2d. By prostrating the strength: and these two causes are highly favourable to the development of consumption. Put a scrofulous individual under the influence of mercury, and if he have any sores you will find what an ill condition they assume; if he have any ulceration of the throat it will extend itself, and be ill conditioned; if he have any chancre on the glands or prepuce, it becomes an unhealthy sloughing sore.

With a view to—

THE PREVENTION OF CONSUMPTION,

it is necessary to ward off all the remote occasions of consumption.

1. The effects of a low or variable temperature are best warded off by wearing a wash leather, or fleecy hosiery, or flannel waistcoat, next the skin. In winter and spring, when there is not much sensible perspiration, upon the whole perhaps one of chamois leather is best; but when there is much perspiration this is apt to be wet, and may produce a chill, and therefore flannel is then to be preferred. In London this is very necessary. When I was in the north of England I was comfortably warm with one flannel waistcoat in winter; but I am now obliged to have an additional waistcoat of leather to produce the same degree of comfort.

2. One thing is of vast importance as to the skin (for the skin is highly influenced in affections of the internal organs), and that is, sponging the surface of the body, affusion of warm water, or a shower bath; nothing, I believe, would tend to prevent consumption more than these. In doing this, the individual might begin with water at the temperature of 96° Fahr., with some salt in it, and diminish the temperature one degree every day till it is as low as 60° Fahr., which is about the temperature of the sea in summer, and here the patient had better stop; afterward the skin should be thoroughly dried, and well rubbed. In females the head should be covered with a cap of oiled silk. If the use of the bath be followed by a warm glow upon the

surface, you have the best proof that it agrees with the patient. If an individual who is predisposed to consumption use this plan daily, it is surprising how it prevents him from receiving cold, as it enables him to maintain a brisk circulation under a low or variable temperature, which is the great utility of cold affusions used in the general way. In delicate individuals who do not adopt this plan, from a low or variable temperature the skin is liable to become cold, so that the blood recoils, and inflammation or consumption is the consequence.

3. If local irritation occur about the lungs, bronchial lining, or pleura, you must remove it by the gentlest means possible. Rather remove all the oppositions to recovery; and if the case be slight, leave it to what are called the powers of nature, but avoid the abstraction of blood unless it is necessary. It generally can be removed by very little depletion, if the patient be at rest, with a strictly regulated diet, and a gentle action on the bowels. In cutaneous affections it is requisite that the skin should be very carefully attended to, and especially if these affections of the skin follow, for example, measles, small-pox, typhus fever, scarlet fever, or whooping-cough, which are all attended more or less by affections of the mucous membrane of the air-passages as well as of the skin. Great benefit will be found in bronchial cases from the use of the tepid bath, in which the skin should be soaked for fifteen minutes, and having been soaped and re-washed, it should then be thoroughly dried. This will sometimes remove the affection from the bronchial lining and prevent an attack of consumption, with the assistance of a regulated diet and clothing. On the same principle you should avoid those occasions which irritate the bronchial lining, as common dust, ivory-dust, needle-dust, and the clouded atmosphere of London. Bronchial affections are more common in London than in the country, and this is one reason. Count Rumford says he never used to see the clouds hovering over London without asking how many chaldrons of coals they contained; and it is evident that there are in the London atmosphere an infinite number of minute particles floating which irritate the air-passages. When I came to London I had an incessant cough for three or four months. A gentleman from Sheffield informs me that persons who grind needles are remarkably prone to consumption, and seldom attain the thirty-eighth or fortieth year. This has lately been made the subject of attention, and the wheel is surrounded with magnets to attract the particles of dust. Two friends of mine think this arises more from the position of the body, than the inhalation of dust, but I think it perhaps arises from both.

There is one point with regard to these and similar diseases which I

wish you to notice. Children whose diet is bad, whose clothing is neglected, and who sit up at night, become pallid and emaciated, and generally become chicken-breasted, the chest contracting very much. It is very important to counteract this contraction ; it prevents children from growing strong. Exercise should be taken in the open air, but never carried to fatigue, and if this can be avoided, the child should almost live in the open air. The sleep should be sufficient, and taken early ; the mind should not be kept too long upon the stretch at one time, nor should the education be allowed to interfere with the sleep or exercise. If an individual have a narrow chest, he will necessarily have small lungs, and these will take in but a small quantity of air, and the blood is thus not so freely ventilated as it ought to be. By causing the child to lie on the floor, with the arms stretched out, for half an hour twice a day, and by using the dumb bells, and all exercises which are calculated to increase the strength of the muscles of the chest and trunk, as dancing, riding, fencing, sparring, the breathing will be benefited ; and it should run very fast, to make it long-breathed. You will generally find it surprising how greatly the breathing is improved by the expansion of the chest. A change in the habits,—for instance, from steadiness to dissipation,—often brings on consumption ; hence it occurs very frequently at the period of introduction, as it is termed in high life. In children who have been in perfect health at school, where their habits have been regular, I have often seen consumption occurring as soon as they have come home and have been allowed to sit up at night, neglecting the diet, clothing, &c.

It should be borne in mind that fifty thousand individuals die annually of consumption in this country ; and that we know nothing which will cure tubercles, or arrest confirmed consumption : hence you see how important it is to bear in mind the means of preventing such a terrible disease.

SYMPTOMS OF CONSUMPTION.

When consumption arises, it generally comes on very insidiously ; first, by a hacking cough, a cough so slight that little or no attention is paid to it. An accurate observer, however, sees other changes accompanying it. The skin becomes rather more delicate ; the eye, especially towards night, has an expression of animation in it,—it is brighter than usual ; the hair becomes softer, and does not keep in curl so well in females as usual ; the breathing becomes a little short and accelerated, and it is especially hurried on running, or going up a hill, or up stairs ;

the pulse is a little accelerated, and very much by motion : this is a remarkable symptom, as there is no apparent local cause sufficient to account for it. The disease here is in its most hopeful state. If any thing can be done, now is the time. The most trifling cough in the world with an accelerated pulse, is an alarming circumstance in families where consumption prevails : if you see an individual going about with these indications, you should at once be alarmed, for most frequently consumption supervenes on this state. Sometimes there is a slight pain at this period in the chest ; but sometimes there is no pain whatever, and the patient can take a deep inspiration without uneasiness. One thing is remarkable about this affection, or rather about the fever which steals on so insidiously. The muscles are vigorous, there is considerable energy of the mind, and the appetite is undiminished. To this there is an exception, namely, where the liver is affected, and then the mind is simultaneously affected. In all other kinds of fever there is prostration of muscular power and of mental energy, and diminution or loss of appetite. In genuine consumption and confirmed hectic fever, all these are generally absent till there is considerable emaciation. When the stomach, liver, and bowels, are disordered, which they often are in these individuals in the incipient stage, the tongue is foul, the secretions of the liver are deficient or depraved, the bowels are torpid at one time and lax at another, and the spirits are depressed. These are the most hopeful cases. If you cure the disorder of the stomach, liver, and bowels, at once, you prevent the disease. If the disease be once actually developed it is no matter (as far as the attempt at cure is concerned) what you do, for the disease will go on in despite of every attempt to arrest it.

As the disease advances, the cough generally increases, the skin becomes more delicate, the eye becomes brighter, the breathing becomes shorter, the pulse becomes quicker, and the skin hotter, and you perceive, if you notice the patient from week to week, that a gradual emaciation is taking place. The expectoration at first is nothing but a little frothy, glairy, mucus, and then it becomes more abundant. This constitutes incipient consumption.

The disease goes on thus for one, two, three, four, five, or even six months before pus is spit up ; and then the period arrives when pus is discovered in the expectoration. It is important to know the precise appearance of the sputa expectorated in consumption. In a very large majority of cases it is very peculiar, so that if I saw the expectoration I think I could give an opinion as to whether the individual were consumptive without seeing him : in ninety-nine cases out of a hundred I

dare risk my reputation upon the danger of being deceived. It is difficult to give in words a description so precise as to be distinctly understood ; it should, therefore, be examined by each of you. Pus that comes from tubercular vomicae is generally of the following character: it is of a dirty white, or yellowish colour ; it has a curdly consistence, and a cloudy appearance. If you examine it minutely, you will see one patch, as it were, piled on another ; it is formed of several small masses, and does not run into one mass. It is composed partly of mucus, partly of a loose diffused pus, and partly of a curdly or flocculent matter, blended together. The mass generally spit up is about the size of a very small cockle. Generally at first it floats in water, and if you pay attention, you will see the reason of this ; it contains several air-bubbles, and when these burst it falls to the bottom of the water. Thus when a consumptive person has expectorated into a basin of water, you see one or more of the patches having a flocculent ragged appearance at the bottom of the water, while others are floating. In the water you see particles floating, and these are the curdly matter which denotes the tubercular diseases, and which you never see in any thing else. Blood sometimes appears in the expectoration of chronic bronchitis and in that of phthisis. The most common appearance of blood in tubercular consumption is small streaks attached to each patch. It is set down in books that when a person expectorates purulent matter, he is decidedly consumptive. No such thing ; for—

1. Matter is often expectorated, as I have shown, from the larynx. But if you trace the history of the case, you will clearly discover the disease from consumption. It begins with loss of voice ; uneasiness about the larynx ; a peculiar cough, with a harsh, suffocating, clanging noise in the larynx ; there is an absence of the peculiar state of the skin, of the eye, and of the pulse, all stealing on insidiously ; and, moreover, the expectoration is different,—it is common pus.

2. Chronic bronchitis produces an expectoration entirely different to that of pulmonary consumption. The patient often spits up matter secreted, not from an abraded surface, but from the bronchial linings. Each patch of expectorated matter is generally more large and diffused than that of tubercular consumption, and each patch runs into the others, till at last it forms one uniform mass, resembling in consistence mucilage of gum arabic, or the yolk and white of an egg blended together. You will observe that I say—at last it forms one uniform mass.

3. The only remaining expectoration which you can confound with that of consumption is the expectoration of a common abscess of the

lungs ; and here the history of the case will guide you. Common abscess of the lungs is a very rare disease, and does not occur more than once in a hundred cases. The patient has acute inflammation of the lungs, rapidly succeeded by an expectoration of pus. I saw a remarkable case of this. A young man was thrown out of a boat into the Thames ; he was chilled, and the next day had pain in his chest ; no medical man was consulted for some days, and then the inflammation of the lungs had passed into suppuration ; when I saw him he was spitting matter, and he is now convalescent. The patient has symptoms of suppuration ; the pain ceases, but the dyspnœa continues. The patient has difficulty of breathing without pain ; he can take a full inspiration without pain ; and he spits up matter more diffused and very different from the true tubercular expectoration. The only exception to this is when a large tubercular vomica is formed from several small tubercles being connected together, and then you have large quantities of matter expectorated ; but if in this case you examine the expectoration, you will find the curdly matter in it.

The fever attending consumption has been called hectic fever.

1. There is one form of hectic fever of which I have known two cases in old individuals, and which is different from what is set down in books. The eye is brighter than natural, the pulse is quicker than natural, &c., but the patient has no night sweats. You mostly meet with this slow consuming fever in old persons. It is distinguished by the absence of languor of body, lassitude of mind, and loss of appetite ; by the pulse being constantly quicker, the eye constantly brighter, and by the sleep perhaps being shorter than natural.

2. In common hectic fever the pulse is quicker throughout the twenty-four hours than natural ; the patient has a more bright appearance of the eye than usual ; and with it he has a marked increase of fever once or twice a day ; generally twice a day, about noon and in the evening. The face becomes flushed with a circumscribed redness ; the eye becomes brighter ; the skin hotter ; and the pulse quicker : this lasts for a few hours, and is most remarkable towards night, and this goes on till about two o'clock in the morning, and then it terminates in a profuse perspiration.

These are the two common forms of hectic fever. When it occurs only once in twenty-four hours it is sometimes quite periodical. I saw a patient in a hospital for a friend of mine, and she had an accession of fever every day at three o'clock so regularly, to a minute almost, that she could tell what was the time of day by it. When the hectic fever occurs once or twice a day, the water will most generally have what is

called a lateritious sediment, a sediment very much resembling brick-dust. In the other form you often have no sediment at all in the urine. When hectic fever has set in decidedly, under either of those forms, the patient wastes ; but far more under the last form than under the first. The eyes become brighter,—the cornea more glistening and vivid, and the conjunctiva more pearly ; the cheeks become more hollow, and have usually a red patch upon them ; the nose becomes sharp ; the arch of the hand becomes remarkably hollow ; the knuckles and the bones of the fingers become more prominent, and the wrists more flat ; the trunk and extremities become more wasted, till at last the emaciation is extreme ; and the cough is more and more hollow as this state occurs. There is a peculiar deep, hollow, reverberating sound, in the cough of confirmed phthisis pulmonalis, different from that of any other cough. I cannot describe it ; but having heard it once it will easily be recognised. These things are of great importance, such as the sound of the cough and the appearance of the expectoration. Some physicians assume that it is of no consequence to be minute ; but all that I have observed convinces me that the diagnosis of diseases mainly depends on minute circumstances ; that excellence is to be found in nothing but minutiae ; and that those who despise minutiae are mostly ignorant of essentials, which are made up of minutiae.

If you except the state of the mind when the liver is affected, though the patient is dejected, yet there generally is hope to the last. A pupil at this school went to study in Paris, and became the subject of consumption. He came from Paris to see me, and when I visited him I found him gasping for breath in the last stage of consumption, and he died in four or five days. Still, to the last he was full of plans about the future, and had not the least idea of his own danger. To these individuals this is a fortunate circumstance : hope is the balm of their life, and hope forsakes them not to the last. In general, however, the spirits are depressed when the liver is simultaneously diseased.

In consumption the death is sometimes gradual ; the breathing becomes exceedingly weak, matter is accumulated in the lungs, the patient loses the power of coughing, and at last dies of suffocation. In giving a prognosis to the patient's friends it should not, however, be forgotten, that these patients sometimes die very suddenly. A friend of mine, to whose case I previously alluded, was bled copiously, and was advised by his physician in the country to go into Devonshire ; and he called on me in London as he went. He was staying at one of the hotels in Leicester Square, and there I visited him several times before his death, which was sudden ; and I was remarkably struck with his extreme dif-

ficulty of breathing, and I felt sure that he had hydrothorax. I applied Laennec's instrument, and could in no part of the chest distinguish the air entering or permeating it, and I therefore expected he would die suddenly. His mother seemed unwilling to converse upon the subject, and I had no one else to mention it to : she had lost four or five other sons, and this was the last branch of a very ancient family ; she knew that he was dying, and she declined any conversation about him. I was at a consultation with the late Dr. Baillie when I received a message, and as soon as possible I saw him, but I found he was dead. He felt himself better than usual that morning ; he got up, and died in the act of shaving himself. If such a thing happened without your seeming to be aware of its possibility or probability you might be considered ignorant, for the public, at least a certain class, make no allowances for the difficulties which medical men have to encounter in forming an opinion, which is, in most cases, founded only on circumstantial evidence ; and no man has occasion so often to use the highest faculties of the mind as a medical man, and that too, in some instances, under very disadvantageous circumstances.

I attended a young lady, whose case I have before mentioned, and who was removed from Rome to England. One of her sisters read to her every night till she fell asleep : her eldest sister one night read to her till she supposed her asleep ; she looked at her, and thought there was some change in her ; she spoke to her, but no answer was returned ; she shook her, and yet no change occurred ; she examined her more closely, and found her, as she imagined, dead. She became excessively alarmed, and her mother and sisters came, and found her, as they supposed, dead : I was sent for, and went directly. She was lying on her left side, in a very easy bent posture, her hand was under one cheek, her eyes were shut, her lips were nearly closed, she had a placid countenance, and such a sweet smile was upon her face, that I could at first hardly believe she was dead.

I have known individuals die at dinner. This sudden termination of the disease may arise from an effusion of blood into the bronchial tubes, or from gangrene of the lungs. Sometimes the fatal event is accelerated by a tubercle perforating the pleura and discharging its contents into its cavity, and producing a sudden and violent attack of pleuritis. Sometimes it communicates with the bronchia, and then the case is complicated with pneumo-thorax. It is indicated by a violent pain in the side, a sense of choking, and extreme anxiety, with the other symptoms of acute pleuritis. In pneumo-thorax, the chest, on percussion, is very sonorous, but the respiratory murmur is inaudible.

MORBID ANATOMY OF CONSUMPTION.

The appearances on dissection are very remarkable. Tubercles we must trace from their origin. An opinion prevails that tubercles always arise from minute vesicles; an excellent work has been written upon the subject by Dr. Baron, who draws the general inference, from the cases that have fallen under his notice, that tubercles have always a vesicular origin. My dissections do not authorize me to be of this opinion. I believe that sometimes tubercles have a vesicular origin, but that most frequently they have not; this is the conclusion I should draw from my own dissections. I have occasionally found vesicles in lungs where there were tubercles, and I have seen them in all their stages; hence I inferred that they were the origin. I have, on the contrary, seen many cases where no vesicles could be found: I have not found vesicles, for instance, in the pleura or peritoneum; and here also it is proved that tubercles form independent of inflammation. I was for a long time at a loss for a satisfactory opinion upon this subject; but now I can confidently state that tubercles are not connected with inflammation in their origin. If any person examine the pleura when it is affected with tubercles, or the peritoneum in the same state, he will find at first only an opaque spot, and up to that point the pleura or peritoneum is perfectly transparent; and this is surely against the theory of inflammation. This opacity, with the transparency up to the opaque spot, is only to be seen by the help of a strong light. It becomes larger and larger, and then is more like the pineal gland than any thing which now occurs to me. As the tubercles enlarge they seem to be the occasion of inflammation; they increase and become local irritants. Now, apply this to the lungs: the tubercles, which at first consist of small greyish semi-transparent points, imbedded in the cellular connecting membrane of the lungs, gradually increase in size, become yellowish and opaque, and several of them unite together, enlarge, and at length become local irritants; a portion of the lung around these is affected, and the tubercle forms a membrane, which surrounds this circular portion. The tubercles often suppurate afterwards, and the adjacent lung becomes inflamed from irritation: frequently parts of the lung become hepatized; or there is effusion of a gelatinous substance into the cellular connecting membrane of the lungs, rendering these parts dense, impervious to air, and of a reddish-brown colour; and from the tubercular cavity which is formed by the suppuration, there is generally a fistulous opening connecting it with the bronchia. There

is then a particular sound produced, upon which I could venture an opinion as to the nature of the disease without seeing the patient; it resembles a mucilaginous fluid forced up and down a very narrow aperture by a piston through which fluid bubbles of air are crackling every now and then. It probably arises from the pus and mucus rising up and down in the fistulous openings between the tubercular cavities and the bronchia, and the bubbles of air every now and then making their way through the fluid. The excavation becomes lined by a membrane, which probably secretes the curd-like matter. In some cases, after death, cavities are found in the lungs, lined by a semi-cartilaginous membrane, and communicating with the bronchial tubes by fistulæ: this appearance indicates the healing of tubercular excavations. In some cases portions of the parenchyma of the lungs are found infiltrated by the curdly matter. Frequently adhesions are found between the pleura pulmonalis and pleura costalis, and occasionally fibro-cartilaginous bands are discovered extending across the cavities of the abscesses. You will see the difficulty, then, of curing confirmed consumption, for every part of the lung frequently is diseased; the lung is in an ill condition; and it is notorious that the state of confirmed consumption is almost hopeless. These tubercles form in other membranes, in the pleura, in the peritoneum, and in the substance of other organs; and the investigation of the subject of tubercular diseases is one of very great interest and importance. In the advance stages you sometimes have what is called colliquative diarrhœa. The tongue is sometimes shining and red, and aphthæ are seen upon it, about its tip and edges, and about the fauces, and then sometimes inflammation is found in the lining of the lower part of the ilium and upper part of the colon, and sometimes tubercles are found in the lining membrane of the intestines.

I shall next speak of the treatment of tubercular diseases.

TREATMENT OF CONSUMPTION.

If you be called to see a person who is threatened with consumption, you should endeavour to ascertain where the irritation is, and having found it, your next object is to remove that irritation and to improve the general health. If the irritation be in the stomach, liver, and bowels, the case will be hopeful, if you see the patient just as the strength is giving way. If the irritation be in the pleura, the patient has a fair chance if you remove it without breaking up the general strength. If the irritation be in the bowels, regulate the temperature,

adopt a bland diet of arrow-root, &c., avoid the abstraction of blood, use rest in bed, and regulate the bowels. If when the functions of the skin are disturbed you remove its disorder by a tepid bath, and thus remove the local irritation, you may prevent the disease from advancing. The main means are rest, a bland diet, and regulated bowels; and if you perceive any inflammation remove it by local or general blood-letting, carried to as little an extent as possible. If the pulse continue quicker than natural when the pain is gone, rest, aperient medicines, a regulated temperature not exceeding 60°, and a regulated diet, may be persevered in till the pulse comes down; and if this be not sufficient you may give digitalis, which in this state is often very useful. When the disease is incipient the same treatment is applicable: if the pulse should not come down give digitalis. In this stage, and in this only, sedatives are very serviceable in effecting the reduction of the heart's action. Of these colchicum is the best; next digitalis; then ipecacuanha; and lastly, prussic acid. In some instances, when one of these sedatives fails, another will succeed. I have found a formula very useful, which consists of two scruples of sulphate and one scruple of carbonate of potass, and five grains of powdered colchicum, taken in an ounce and half of water, in the state of effervescence, with citric acid. The preparations of iodine have been strongly spoken of in incipient consumption. My trial of them does not enable me to form a correct opinion upon the subject; but they have appeared to me to be beneficial in two cases, in which they were given under favourable circumstances, the general management being at the same time strictly attended to.

When consumption is confirmed, you may consider the disease in ninety-nine cases out of a hundred as fatal; I have not seen more than one case out of a hundred recover. Since I have been in London I have seen three individuals who had all the symptoms of tubercular consumption and afterwards recovered. It is the opinion of all intelligent and honest men with whom I have conversed on the subject, that medicine is of no use in the cure of consumption; and I should be sceptical about any case of cured consumption which has been published unless I saw the case; for chronic bronchitis has too often been mistaken for it. The late Dr. Baillie, one of the most candid men I ever met with, had no faith in physic as a radical cure for consumption. Some persons confounding, as I have said, chronic inflammation of the bronchia with tubercular consumption, will say that they have cured many cases; and thus, from the mere sordidness of interest, pretend to cure consumption, and call every case in which cough and expectoration

occur by that name. The only thing to be done in confirmed consumption is to palliate the symptoms, render them less violent, and retard their progress; but still the disease will go on in spite of any remedial measures. And recollect that there are three things which palliate the symptoms very much.

1. A regulated temperature. The best is generally one ranging from 58° to 64° ; but upon this point the patient's feelings should be consulted.

2. A proper diet. It should be such as to support the strength without exciting the heart's action, and it should be very bland: a milk diet answers best. All fruit and other irritating food should be abstracted; animal food, in some cases, is beneficial in confirmed consumption, provided it does not heat the system.

3. Sponging the surface of the body, especially towards the evening, has a remarkable effect in mitigating the fever, lessening the perspiration, and supporting the patient's strength. If you can get the water from 96° gradually down to 60° Fahr. all the better. The patient should never be allowed to perform the operation for himself, for two reasons; first, because he is apt to be too long about it, and may thus be chilled; and, secondly, because he may be fatigued. It should be done rapidly, and it has a tendency to diminish the hectic fever.

In all chronic diseases attended by fever, rest is very beneficial; but in some of them the sofa is preferable to the bed, so that the patient may be able to use his limbs, which is often desirable. In incipient and confirmed consumption the wasting by perspiration is much less on the sofa than in the bed.

I have often thought that the ancient litter might be used with advantage, as a palliative in chronic bronchitis and tubercular phthisis. A carriage might be constructed to be drawn by a horse in fine weather, and in which, being placed on springs, the patient might take passive exercise in the open air, being covered with clothes, which would be exceedingly beneficial. Sydenham speaks of horse exercise as very advantageous in tubercular phthisis; but no doubt he mistook chronic bronchitis for consumption. The ancients were very fond of sailing. The Romans, for instance, sent their phthisical patients to sea. I believe that sailing will often prevent, though it will not cure, consumption. Boys who have gone out delicate, having worked hard and been fed well and constantly surrounded by a fresh breeze, have become remarkably strong. And if other means failed to restore the strength, I would put a delicate lad on board a ship, and let him work like a sailor. Sailors and fishermen, although their sleep is often broken in

upon, scarcely suffer at all, because they are continually encompassed by a fresh atmosphere.

Keep the bowels gently open, but avoid all harsh purgatives, for they are apt to bring on what is called a colliquative diarrhœa. If you do not use laxatives you may have colliquative diarrhœa from the accumulation of fæces in the colon: the best plan, therefore, is to give a few grains of powder or extract of rhubarb in the day. With a few grains of senna very finely powdered, and mixed in honey or syrup, you may often produce the same effect; or you may give a little fine Socotrine aloes with a little extract of gentian; or you may give infusion of senna, or cold-drawn castor oil. You must also send the patient some medicine as a matter of form, and this may be changed, altogether or in appearance, every now and then; in short, you should administer a placebo, which you may conscientiously do. The patient's hope of recovery generally remains to the last; if you tell him that his case is hopeless he will not believe you, but will send for another physician; you must, therefore, every now and then make a change in the medicine, still keeping in view that you are to do no harm. When the hectic fever is very urgent, in some cases the sulphate of quinine; in some, the infusion of sarsaparilla; in some, digitalis; and in some, prussic acid, will relieve it. On the whole, the sulphate of quinine, and the infusion of red Jamaica sarsaparilla in lime-water, seem to mitigate it more than any thing else. Digitalis seems rather to shorten life by breaking up the general strength. I saw a case where the patient had all the symptoms of confirmed consumption, and a variety of remedies had been tried; digitalis was given, and the patient recovered. In some cases nothing relieves the sufferings of a phthisical patient so much as a full opiate. When the night sweats are excessive, relief is sometimes found from the exhibition of the mineral acids.

From the dissections of Laennec it is certain that consumption is sometimes spontaneously cured; I have seen some such cases. Bayle and most other writers have been of opinion that the disease is absolutely incurable.

When there are open tubercles, and the pulse is oppressive by its accumulation, mild emetics of sulphate of zinc or ipecacuanha are beneficial. Zinc is less likely to produce diarrhœa than ipecacuanha; and, with the same view, an opiate should be given after the emetic. Many old physicians prescribe sulphate of copper in phthisis as an emetic; but I recommend you to avoid it.

With regard to climate, I thought favourably of a change some time ago; but so many appalling facts have come to my knowledge that I

have been induced to change my mind. If consumption be threatened, the patient has the best chance at home: if consumption be confirmed, it is hazardous to leave home. If the patient be in threatened consumption, to remove him from his friends is to wrench him from all the affections which have held him from the time of his birth; and no man can bear this without receiving a shock which may be exceedingly injurious. Beside which, the fatigue of travelling, the risk of cold, the worry and bustle of inns, the diet, which becomes in some measure dependent upon chance, on the road, the danger of damp beds, and the necessity of changing the abode at different seasons of the year, must all be taken into account: they more than counterbalance the good which might result from a less variable climate; and many persons who have left this country in a state of threatened consumption, have returned with confirmed phthisis. If an individual of a delicate constitution, with a slight cough and a slow pulse, should pass to a warmer climate, he can scarcely ever return with safety to this. As to confirmed consumption, removal is quite out of the question; it is a hopeless disease; and change of climate only hastens the patient to his grave. Medical men have been too much accustomed quietly to take up the errors of men who lived in times of darkness and ignorance; and the age in which we live is remarkable for the fortitude with which some individuals have thrown off this cumbrous load, and have dared to think and to act for themselves. This independence of mind has led to very beneficial results in the improvement of professional knowledge. It is for you also to endeavour to cultivate the opportunities afforded you, not only for your own sakes and for the sake of your patients, but for the improvement of your profession; and I have no doubt that at some future period the whole class of tubercular diseases will be arrested. It is a field of study which perseverance and observation will find at all times worthy of cultivation.

Before concluding this lecture, I shall just say a few words with regard to the disease called—

HEMOPTYSIS,

hemoptoe, or spitting of blood. You must recollect that there are a great many abstract terms of pathology which refer to different conditions; and this word is one of them. Hemoptoe arises from a variety of causes. Sometimes the mucous membrane being surcharged with blood, it is effused and mixed with a large quantity of mucus; but sometimes the bronchial tubes are suddenly deluged with blood, and

the patient dies instantly, in which case it proceeds from bronchial inflammation; sometimes from general plethora, falling more especially upon the lungs; sometimes from suppression of the catamenia, or any other habitual discharge, as piles, or an issue, &c.; sometimes from gorging the stomach, and having the bowels confined; sometimes from an enlarged liver; sometimes from the pressure of a pregnant uterus; sometimes, especially in advanced life, from disease about the heart or large adjacent vessels; sometimes from tubercles which interrupt the circulation.

Now, as it proceeds from various causes, it requires various treatment. When it occurs in full habits, on the suppression of some habitual discharge, nauseants are very beneficial; but premise blood-letting. They are most useful when it arises from chronic bronchitis or from tubercles. I once prescribed emetics in hemoptoe, but I committed a mistake; for they will frequently increase the hemorrhage. The good effect arises from the nausea, and not from the full vomiting.

With regard to hemoptoe and other internal hemorrhages, they arise, as was noticed by Celsus, from one of three causes:—

1. Transudation. The common opinion is, that internal hemorrhage arises from a rupture; but this is not so common as transudation, the blood escaping from the open mouths of the vessels.

2. Rupture. When a vessel is excessively distended it is apt to become ruptured; and this is especially the case in the head, where the vessels are very tender. Van Swieten states that the capillary vessels of the brain are more minute than the finest thread of a silk-worm.

3. Erosion; as from a tumour pressing on a vessel and producing ulceration.

CHRONIC INFLAMMATION OF THE LUNGS.

The lungs are subject also to chronic inflammation; and of this there are two terminations. Hepatization of the lungs is constantly occurring, and sometimes, though very rarely, a common abscess of the lungs. It is frequently a sequel of acute pneumonia, and very often a concomitant of phthisis. The symptoms at first are a harsh, hard, grating sort of cough, limited, as it were, to one part of the chest, with a scanty expectoration of small patches of yellowish mucus, a heavy or oppressed respiration, and a flagging pulse. Frequently there is no pain at all in the chest. The natural respiratory murmur is either indistinct or altogether absent. As the affection proceeds to hepatization the breathing

becomes more and more difficult. As it goes on to chronic abscess the case pursues the same course as in phthisis, from which, however, it evidently differs pathologically, because this may occur without tubercles. In the early state cautious blood-letting, mild aperients, rest in bed, a spare diet, a regulated temperature, and digitalis or some other sedative, will often be of service.

CHRONIC INFLAMMATION OF THE PLEURA.

The pleura also is subject to chronic inflammation, denoted by slight pain, or tenderness, or dragging, in the side, especially if a deep inspiration be taken in the supine position, as suggested by Baglivi; by difficulty or shortness of breathing, increased upon motion; by a slow nocturnal fever; by some oppression of the chest on lying down; by the sleep being short and disturbed, and the appetite deficient or variable; by the bowels being torpid, and the urine scanty and high coloured. With these symptoms there is a short tickling cough. The case frequently winds up in anasarca, and terminates suddenly. It may, and not unfrequently does, arise independently of acute inflammation. It terminates by inducing either an effusion of water into the cavity of the chest, or adhesions between the pleura pulmonalis and the pleura costalis. Before effusion has occurred, moderate blood-letting, general and local, followed by blisters, laxatives, and a spare diet, with a regulated temperature, are the best means that can be adopted. If these fail, mercury pushed to ptyalism, and then squills or some other diuretic, may be tried. Sometimes a seton is very beneficial.

Tubercles often irritate the pleura pulmonalis, and the consequence is inflammation and adhesion. You must treat these cases accordingly, taking into account the signs I before mentioned, and calling into use Laennec's instrument, in using which you will also be assisted by percussion. Tubercles mostly form in the upper part of the lungs first. The chest should be exposed under a regulated temperature, and then with the hand you should strike the chest on each side. If the lungs be in a healthy state, the chest sounds like an empty cask. If there be tubercles in the lungs, you have a dead sound, as if you struck the thigh. If there be no respiratory murmur when you apply the instrument, it is a still more suspicious circumstance. When tubercular cavities are formed, the circumstance may be known; for if you apply the instrument over the part where the cavity is seated, and tell the patient to cough, or count ten, if there be a tubercular vomica, the sound will appear to come through the instrument directly to the ear,

from the reverberation of the sound. This instrument is, therefore, a good guide in consumption.

EMPHYSEMA

sometimes arises from an accident, as a fractured rib, and requires a bandage to be applied around the chest tight enough to restrain the motion of the ribs, but not to compress the abdominal muscles. If inflammation of the lungs should occur, it is to be treated upon common principles.

LECTURE LIV.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF CHRONIC DISORDERS AND DISEASES OF THE HEART, PERICARDIUM, AND AORTA.

It is my intention in this lecture to make some observations on affections of the heart, which may be divided into two kinds: disorders and diseases. Disorders consist in mere irregularity, for example, in increase, diminution, or oppression, of the action of the heart without any change of structure. Diseases consist in an actual change of structure about the heart itself. Disorders of the heart are very important in acute, in sub-acute, and in chronic diseases. The heart is connected with all febrile diseases which are attended by diminution, oppression, or increase of its action. When the heart's action is diminished, or oppressed, the venous system is overloaded with blood; when it is increased the blood circulates more rapidly than natural over all parts of the body, and if one part be predisposed to inflammation, it will be affected with it. See, then, the importance in febrile diseases of attending to the particular conditions of the heart's action.

CHRONIC DISORDERS OF THE HEART.

I shall proceed to make a few remarks upon these states as they occur in chronic diseases.

Chronic disorder of the heart, whether its action is increased, diminished, or oppressed, is produced by disorder of the stomach, of the liver, or of the bowels.

1. The stomach, being disordered in some individuals, the heart's action is suddenly oppressed or suspended.

I have known it instantly suspended by pork, by tongue, by rich pastry, by heavy dumpling, or any indigestible substance of that kind. In some of these cases the person dies as suddenly as if he were shot through the brain, or through the heart itself. One of the first cases of typhus fever I attended was in a schoolfellow and friend of mine. He was convalescent, and as I was ignorant of this connexion between disorder of the stomach and disorder of the heart, I neglected to give any

particular directions as to the quality and quantity of his diet during the state of convalescence. I was sent for one day, and upon arrival I found that he was dead; he expired instantly after having eaten a large and indigestible meal. I have seen other cases of this kind. The only way to save the patient, if you chance to be present, is by diffusible stimulants, as a glass of brandy, the patient being placed in a recumbent posture.

In other cases great oppression of the heart only occurs. The patient is pale over the whole surface of the body; sometimes he falls down suddenly and faints, with a dilated pupil, a blanched conjunctiva, a weak respiration, and a small, struggling, irregular pulse. I saw a gentleman who had been travelling a long way, and at the end of his journey ate some veal pie with a heavy crust. He dropped down insensible, his breathing was feeble, his pulse struggling, his eye blanched, his pupil dilated, and he was in a slight degree convulsed. If you can act on the stomach by an emetic, it is the best plan; but if the stomach be not obedient to an emetic, the patient has the best chance from diffusible stimulants. When persons die in this state you generally find the brain more or less gorged with blood, or an effusion of thin serum into the ventricles or between the membranes of the brain.

2. More commonly than this, there is an intermittent or an inordinate pulse from disorder of the stomach. A person has a torpid liver, uneasiness about the stomach, and a torpid colon: he is subject to very great irregularity of the heart's action, to flushes of heat in the face, to coldness of the feet, and his pulse is frightfully intermittent after a meal. It beats once, twice, thrice; then there is a sudden stop, and then it goes on again. It is to be remedied by acting gently on the liver and bowels, and regulating the diet.

3. Sometimes the heart's action is what is called inordinate. One pulsation is strong, the next weak; then three or four pulsations are rapidly performed, and are succeeded by three or four slow pulsations. This is exceedingly common, from disorder of the stomach. So long ago as the year 1811, I saw a lady who for a long time had been subject to violent palpitations of the heart, and extreme irregularity of its action, so that at length she was unable to walk across the room without assistance. Every now and then she was suddenly seized with great difficulty of breathing, and coldness of the hands and feet, her face was flushed, she was perfectly powerless, and sunk from off her chair upon the ground. She went on in this way for twelve months; she had consulted several physicians, who agreed that she had organic disease of the heart. When I saw her, I thought it might possibly depend

upon the stomach ; and upon inquiring into her diet, I found it all originated from a small quantity of pastry which she always took once in twenty-four hours, or oftener. By withdrawing this, and giving her a small quantity of animal food, she recovered very rapidly indeed. I saw a lady in London with the same symptoms, with a torpid colon, and a foul tongue. She was supposed to labour under organic disease of the heart by the physicians whom she had consulted. I regulated the diet carefully ; I acted gently on the liver, and moderately on the bowels ; and all her symptoms disappeared with great rapidity.

If, then, you see a case in which there is irregularity of the heart's action, with a foul tongue, with irregularity of the liver, the stools showing either a deficiency or a depravity of bile ; when, indeed, there are any indications of disorder of the stomach, liver, and bowels, be careful of giving an opinion as to the existence of organic disease of the heart. In all these cases, try first to remove the disorder of the stomach, liver, and bowels.

4. The heart's action is preternaturally increased from disorder of the stomach, liver, and bowels. Chronic inflammation, seated in different parts, is chiefly maintained by excitement of the mucous membrane of the stomach operating on the heart's action ; and this excitement of the stomach is produced and maintained by daily errors of diet and drinks. A great many chronic inflammations arise, or, if not, are maintained, thus ; therefore, in all chronic inflammations, support the strength, without exciting the heart's action, by carefully regulating the diet. In all chronic diseases, that diet is prejudicial which increases the heart's action and the animal heat simultancously.

CHRONIC INFLAMMATION OF THE PERICARDIUM.

The pericardium is very liable to acute or sub-acute inflammation, as I have already noticed, especially in rheumatic subjects ; and it is also very liable to chronic inflammation in rheumatic subjects. If you see a patient labouring under chronic rheumatism, with a dull aching uneasiness, numbness, and a sense of tightness, in the region of the heart, increased on stretching the trunk upwards or backwards, especially when lying on the left side, or by a deep inspiration, you may be sure that some insidious inflammation is going on ; and in general you may remove it by regulating the diet, by the abstraction of blood, by the use of blisters, and by the administration of colchicum. When it has continued some time, adhesions often arise between the pericardium and the heart ; and I believe that adhesions often exist without any

indications by which they are to be discovered. It has been said that the pulse intermits; but this is by no means a frequent guide. I have seen cases where there has been extensive adhesion, and yet during life the pulse was regular. The most constant sign is an uneasiness and tightness about the heart, increased by a deep inspiration.

Corvisart says, that any quantity of fluid less than seven ounces found in the pericardium after death, is not to be looked upon as preternatural. This quantity perhaps is too large, but a thin pale serum is very often effused *in articulo mortis*. If it be inflammatory, there are portions of coagulable lymph floating in it, and the heart is often found coated with coagulable lymph. A pale, thin, transparent fluid, without any thing like curds floating in it, is not preternatural.

But let us enter more minutely upon the consideration of some chronic affections of the heart. One has been vaguely called *angina pectoris*.

SYMPTOMS OF ANGINA PECTORIS.

The patient has a sense of anguish or uneasiness in the region of the heart. This generally comes on suddenly, and occurs in fits: when it returns, generally there is severe pain shooting from the left side of the chest down the left arm to the elbow, and sometimes below the elbow. Sometimes the patient has pain in the right arm; and sometimes the pain is absent, and the patient feels the left or right arm somewhat numb. It is most apt to come on when the person is walking, especially if he be walking up a hill or up stairs. I knew a gentleman in the north of England, who used to go every day to a coffee-room, and in returning one night, he felt pain in the region of the heart on ascending some rising ground. He stopped for a time, and then went on. The pain returned two or three nights successively afterwards, just about the same spot, and he became alarmed: he went on, and at last the disease terminated fatally at once. When the fit comes on, the patient feels a peculiar distressing want of power to inspire, and generally complains of a sense of stricture across the chest and a sense of suffocation, so that he instinctively stops at once. There is a livid or pale countenance; a small, oppressed, and very often an irregular pulse; a weak, anxious respiration, an universally cold skin, and an intense desire for fresh air. The fit frequently continues for a long time, but sometimes it goes off speedily. These attacks are afterwards often induced by any thing which disturbs the stomach or the mind remarkably.

PATHOLOGY OF ANGINA PECTORIS.

Angina pectoris, as far as the conditions are concerned, may be considered as including different affections. It arises—

1. Sometimes from organic disease about the heart or its valves.
2. From diseases about the large adjacent vessels or their valves.
3. From some ossification of the coronary arteries; this has several times been found.
4. Sometimes entirely from irritation about the stomach. I have seen two cases during the last year, where individuals had all the symptoms I have enumerated, and which depended on combined disorder of the stomach, liver, and bowels, by removing which both of them recovered. Generally speaking, however, this affection is associated with some organic disease.

THE TREATMENT OF ANGINA PECTORIS.

must be regulated with a reference to its cause. Never pronounce an opinion that a person has organic disease till you have removed the apparent disorder of the stomach, liver, and bowels. If the symptoms continue after you have done this, the presumption is strong that there is organic disease; and then there are two modes of treatment: one during, and one after, the paroxysm.

1. The treatment during the paroxysm must vary according to the condition of the patient. In some cases you find the patient with a feeble, irregular pulse, a pallid face, a weak, anxious respiration, an universally cold skin, and intense anxiety for the admission of fresh air. In these cases procure a free circulation of pure air, keeping the surface of the body warm, and administering diffusible stimuli, as brandy or ammonia, or sulphuric æther in camphor julep. Upon the whole I think brandy is the best. In other cases, you have a struggling pulse with considerable power, and then you will produce the greatest benefit by abstracting blood with great care, to the amount of one, two, three, or four, ounces. If the heart's action be more regular, if the respiration be more easy, if the anxiety cease, and if the patient have an increase of power, you may abstract blood moderately: but in all these cases never carry it to any thing like approaching syncope, for this may pass into complete syncope, which may easily produce death. If any pain should remain in the region of the heart, blisters may be applied. In some cases, even when the pulse is small and struggling, when other

means fail, relief is obtained from a small abstraction of blood. M. Zea, the late ambassador from the republic of Colombia, whose character has been so much traduced by the rascality of his government, was the subject of angina pectoris, which had sometimes been relieved by stimulants. On one occasion he seemed to be expiring, and the abstraction of four ounces of blood apparently saved his life. He died subsequently, and his body was, after death, examined by a pupil from this school, who went into the country with him: organic disease was found about the heart, and also about the liver.

2. In the absence of the fit another mode of treatment is required.

1st. Regulate the diet: that is, adopt a diet which is very simple in quality, to avoid irritating the mucous membrane of the stomach; and exceedingly moderate as to quantity, to avoid the generation of too much blood; both which, if not avoided, will excite the heart's action.

2d. The bowels should be moderately relieved once in the day.

3d. Attend to the tranquillity of the patient's body. If persons who have organic affections of the heart wish to live long with comfort, they must adopt a still life. This is one of the most important rules with respect to the treatment of these diseases, and by adopting it, individuals may live with comparative comfort.

The mind is very important, and every thing which tends to disturb it should be avoided as much as possible. But if you change the patient's habits and disturb his mind, you thus affect the heart more than his habits perhaps would have done. This should be taken into account.

Advise the patient as far as possible to avoid those things which he knows will make his mind anxious.

In all formidable diseases it is better to conceal the disease from the patient. I have occasionally been solemnly requested by patients to tell them the truth upon the subject, and in some instances have done so, and have mostly had to repent it, for nothing would afterwards allay the irritability of mind. Few persons have firmness enough to be told that they have a mortal disease. Many of them will not believe you, and would rather think you are deceived, than that they are labouring under a fatal disease: the consequence of this is, that you are discharged, and another physician is consulted. The best way is always to be candid to the friends. Candour is a most important ingredient in the character of a physician.

It is surprising how beneficial these means will be, if the patient avoid all those occasions which disturb the heart's action.

There are other organic affections or diseases of the heart which I shall now notice. One is—

SIMPLE ENLARGEMENT OF THE HEART WITHOUT DILATION,

that enlargement being generally seated in one of the ventricles, which loses in size what it gains in thickness. The muscular substance in these cases is found redder and thicker than natural. The auricles are rarely thus affected. When the left ventricle is thus enlarged, the patient has a more frequent and considerable sensation of the heart's action than usual, and inclines the trunk of his body forwards. These subjects are very liable to palpitations, especially on motion. Sometimes the pulse is strong, sometimes it is weak, and occasionally it is irregular; but there is a want of due regularity between the stroke of the heart in its neighbourhood, and that of the radial artery. In acute diseases this circumstance should be attended to, that the pulse is often small when the heart's action is strong. This is the case in enteritis. The practical inference which I draw is this,—that when the pulse is small, and the heart's stroke is regular and strong, you can generally bleed moderately with benefit.

In these cases there is generally an absence or a diminution of the natural sound on percussion. Between the cartilages of the fifth and sixth ribs you perceive a very strong impulse, with a sound duller than natural, and the pulsation confined to a small extent, while the auricles can scarcely be heard. I have not myself been able to distinguish the healthy from the morbid sounds, so as to discriminate diseases of the heart, by means of Laennec's instrument, so accurately as I could desire; but I believe that the instrument is of great utility for this purpose, and that my want of success arises from a want of sufficient attention. In these cases of affection of the heart, examine the neck, and you will find pulsation and swelling about the external jugular veins, especially when the right ventricle is the seat of the disease. This affection may exist simultaneously in both ventricles.

Enlargement of the substance of the heart, with an increase of the cavities, has been, perhaps improperly, called—

ACTIVE ANEURISM.

I have repeatedly seen cases of this kind. The subjects of it have a tremendous stroke in the region of the heart, and this stroke is more extended than natural. The pulse is full and bounding, like a cord.

I saw a lady who is a mass of organic disease, who has active aneurism of the heart, and the stroke of her heart is remarkably strong, full, and expanded, and hard. You may abstract blood very largely in these cases, and still this action is unabated. Every now and then this lady is distinctly threatened with apoplexy, and sometimes she is threatened with suffocation. This generally arises from the stomach or the mind having been excited; but by living quietly, regulating her diet, and keeping her bowels open, she lives comfortably. In a former lecture (Vol. I. p. 94), I alluded to such a case, which I saw when I was at the Edinburgh Hospital, which, from the patient having a sort of catarrhal cough, was supposed to be one of chronic pneumonia; but the heart was in a state of active aneurism. These symptoms, then, designate active aneurism; but recollect, that then they are permanent. The same symptoms often are seen occurring occasionally. In what are called functional diseases, the symptoms are not constant; they come and go, so as to convince an accurate observer that the cause of them is not permanent. But the cause is not only permanent, but progressive, in organic diseases, and hence the symptoms also are constant.

Another affection has been called—

PASSIVE ANEURISM,

consisting of dilatation of the ventricles, with thinness of the parietes, the muscle being softer and paler than natural. It most frequently occurs in sedentary persons, who breathe a bad air, whose food is bad, who disturb the digestion remarkably by spirits, &c. It generally affects both ventricles, and is indicated by a pale face, with shrivelled lips, a feeble pulse, and a tendency to palpitations, dyspnœa, and syncope, from any slight mental emotion or corporeal exertion. Organic affections of the heart and pulmonary consumption are apt to be confounded. A gentleman came to me who was supposed to be consumptive, but he had not the combination of symptoms which designate true phthisis; his pulse was frequent and feeble, his face pale, and he was very apt to faint when he was in active exercise. He fainted in my room from the effect of walking up stairs, continued long in a state of syncope, and the heart's action was so feeble for many hours that I was obliged to put him to bed. He had a cough; and a cough very often attends chronic affections of the heart. Laennec says there is a less clear sound than natural when the instrument is applied over the region of the heart.

TREATMENT OF SIMPLE ENLARGEMENT OF THE HEART.

The patient should live on as moderate a quantity of food as possible ; he should avoid active exercise, but will generally bear passive exercise on horseback, or in any open carriage ; the bowels should be kept soluble ; he should breathe a fresh atmosphere ; and he should regulate the mind by avoiding all those occasions which from experience he knows will disturb it. These patients generally have a pulse of twice or three times the natural volume ; and this sometimes increases to a very great extent, and then bleeding is very beneficial, but it should not be carried to syncope. Sometimes this affection is combined with rheumatism, and then great benefit often arises from moderate bleeding, blisters, and the exhibition of colchicum.

TREATMENT OF ACTIVE ANEURISM.

In cases of enlargement of the heart with increase of the cavities, the patient should live on as small a quantity of food as possible. If either the head or the respiration be disturbed, abstract blood to relieve them. This is a case in which a still life is necessary to the last extent. I know a lady who is labouring under this disease, but who can take an airing in her carriage comfortably. If these individuals use exertion of mind or body, they are liable to apoplexy, and require copious bleeding. A lady on going up a flight of steps nearly fainted, and about thirty ounces of blood were abstracted, as she was distinctly threatened with apoplexy. This active aneurism of the heart sometimes occurs in rheumatic subjects. Rheumatism seems not only to affect the pericardium, but the substance of the heart itself. The use of colchicum is exceedingly beneficial, with the other treatment which I have mentioned, and, above all, a regulated diet. A young lady had pain in the chest after a long walk, which went on, and when I saw her there was a tremendous stroke in the region of the heart which I could feel over the whole region of the chest, and she was dropsical. She was careless about her food, eating a complicated diet, and drinking wine occasionally. She was bled repeatedly, and the dropsy was entirely cured, so that the patient was apparently comfortable. She returned, however, to errors of diet and drink which I directed her to avoid, and again became very uncomfortable. In such cases you must speak very strongly to the patient and his friends. One of the most serious errors handed down from age to age is the opinion that medicine will cure chronic affections.

It is the bounden duty of the medical man to explain this to his patient or the patient's friends: it may seem a humiliating duty to perform, but it is a truth that must be told, that the efficacy of a regulated diet upon the whole is infinitely greater than that of physic in chronic diseases; and if this be applicable to one disease more than another, it is to this disease of the heart. Do all you possibly can to regulate the diet as to simplicity and moderation.

TREATMENT OF PASSIVE ANEURISM.

In dilatation of the cavities with thinness of the substance of the heart, the great feebleness of the habit, and especially of the circulation, must be taken into account. Here your grand object is to sustain the strength without exciting the action of the heart. The patient should breathe a fresh atmosphere; he should keep perfectly still; he should take the air in an open carriage, or on horseback; or, if these cannot be borne, he should sit in the open air; and his mind should be kept as easy as possible. A moderate quantity of animal food is generally of use. All stimulating drinks are hurtful; they often bring on an attack of syncope by exciting the heart's action, which is followed by a depression of the heart's action; but a stimulant is necessary when syncope does occur.

One affection of the heart called the—

BLUE DISEASE,

is born with an individual. The foramen ovale, instead of being closed after birth, remains open. The lips and skin are blue, the surface bloated, and the ends of the fingers enlarged. The respiration is remarkably disturbed by crying or laughing, or by motion, or by any affection of the mind. Children often die in a fit of passion, crying, or coughing, in the first three years; but they may survive for many years. I have seen some adults of this description; and a friend of mine found it in many individuals far advanced in life. Dr. Gregory, of Edinburgh, used to mention some Russian sailors who were affected with typhus fever in Leith Roads; several of them died, and in some of them the foramen ovale was found open. But as the foramen ovale sometimes continues open without the blue disease, probably it is produced more frequently by a communication between the ventricles, and ossification of the pulmonary arteries. In these cases a regulated diet, quietude of body, and quietude of mind, are always necessary, because from an

improper diet, great exertion of body, or emotion of mind, they may suddenly terminate in death.

DISEASES OF THE VALVES OF THE HEART.

One of the most common affections of the aorta is a slight dilatation of the arch just as it arises from the pericardium, with a slight degree of opacity and puckering of the inner membrane, and opacity of the ventricle. Sometimes, when the arch of the aorta is not affected, the valves are affected by earthy depositions. Ossification of valves of the heart rarely occurs under twenty-five years of age, but it is exceedingly common in old persons, especially those old persons who drink ardent spirits. It is found more frequently in the left than in the right side of the heart. The mitral and aortic valves are the most common seat of ossification, the pressure on the aortic being greater than on the other valves. The most remarkable symptom is a peculiar jar or vibration in the pulse, which is difficult to describe, but which is very conspicuous. It seems as if a piece of catgut were tightly stretched, and then struck so as to vibrate. The patient is very liable to attacks of palpitation, dyspnœa, and universal distress, upon motion, because the blood is poured with greater force than natural from the auricle into the ventricle, and from the ventricle into the aorta. On applying the ear over the part there is often a sound which is like that of a pair of bellows smartly compressed. During contraction, this is a sign of ossification of the sigmoid valves. Sometimes it sounds like rasping wood with a file; and I saw a case with a pupil of this school, where the sound was like the cooing of a dove. Your object here is to have as little blood in circulation as is possible to maintain life, and to keep the patient as quiet as possible.

It was an opinion that polypi formed about the heart. In many bodies you will find strings of coagulable lymph hanging about the ventricles, or auricles, or in the pulmonary artery or veins; they are formed during the agonies of death. Sometimes there are excrescences formed in the arteries. A lady desired me to give her a candid opinion as to whether she had organic disease of the heart. She was sitting down, and to all appearance was in robust health. She was pale, as often is the case in organic affections of the heart; I desired her to walk across the room, and when she did so, she became livid, and sat down. In twenty or thirty minutes her breathing again became calm. In a short time this lady died, and on examination of the heart a tumour was found attached to the side of the pulmonary artery.

When you see a patient with a remarkably easy respiration when sitting quietly, and whose respiration is disturbed to a very great extent on motion, and again becomes easy on resting, you may be sure that there is some organic disease of the heart.

You see individuals going about with a red, flushed appearance of the whole face, with redness here and there about the cheek and nose; with an eye watery and minutely streaked like that of a person after a fit of intoxication. Talk to such a person, and he will speak to you for five or six minutes and then suddenly stop, take a deep inspiration, and go on talking again: when these symptoms occur, mostly the individual has organic disease about the heart.

CHRONIC AFFECTIONS OF THE ARTERIES.

Aneurisms of the internal arteries are found most frequently in the arch of the aorta; next in the *arteria innominata*; and next in the abdominal aorta. Very frequently they exist in branches of the internal arteries.

1. One of the most common occasions of internal aneurism is too much work of the heart. Aneurisms are more frequent among males than among females, because far more exercise is taken by males than by females. There is more activity both of mind and of body. The muscles press on the veins, and the blood is returned more abundantly and more rapidly, and therefore the heart contracts more rapidly than natural. The diets and drinks of males are far more stimulating upon the whole, than those of females; when females take violent exercise and drink spirits, they become exceedingly liable to affections of the heart and vessels. Disorder of the stomach has a considerable influence on the heart and large vessels; and this is occasioned by irregularities of diet. Another reason why males are more subject to these affections than females, is that a man has far greater anxiety of mind; he has far greater struggles to make in the world than a woman has, whose life is comparatively tranquil. Spirits excite the heart, and produce organic affections of the heart and arteries; so also does mercury, which stimulates the heart excessively. Persons with secondary syphilis, it has been remarked, are very liable to affections of the heart and arteries; I have not been able to trace this connexion, but I believe it was frequently found when mercury was more severely used than it now is. Individuals are more liable to aneurism after the thirty-fifth year than before. It very often occurs among those who have taken severe exercise; females who work very hard are remarkably subject to it.

It is very common amongst runners, walkers, rowers, &c. I saw two washerwomen the subjects of dilatation, and even aneurism, of the abdominal aorta. In women who follow that employment, the heart and large vessels appear to be affected by the excessive exertion of constantly bending over the tub and rising again, and by their rest being disturbed. The American savages are exceedingly liable to affections of the heart and large vessels, from the long journeys which they perform with great rapidity. I have traced a great many cases which I have seen to excessive exercise; for example, in the mistress of a large school, from going up and down stairs frequently. It has been said, and with some truth, that dragoon soldiers are very liable to popliteal aneurism, from riding with the heels pressed down, and the whole muscles upon the stretch. The Elgin marbles show that the Greeks rode in a different way, and more judiciously: they balanced themselves without stirrups. Our dragoons, however, are suddenly called upon to rise in their stirrups in performing their exercise.

2. Another occasion of aneurism is repletion; from eating and drinking too largely, especially after the age of forty. This is one of the most common occasions in civilized life, if you except the use of ardent spirits, of organic disease about the heart.

3. Another occasion, in all probability, is some change in the blood. By attending to the stomach, liver, and bowels, we have in modern times been enabled to trace the connexion of the affections of those organs with stone in the kidney and bladder; and I believe that there is a relation between this combined disorder and some cases of aneurism. No doubt there is a change in the blood itself, or in the secretions from it.

Aneurism may arise in one of three modes.

1. Without previous disease, from puncture, by which blood escapes into the surrounding cellular membrane.

2. It may, and very often does, arise from dilatation. If you examine after death, you will very frequently find the artery not cylindrical, but you will find a bulging out of a particular part, without rupture. Inflammation and ulceration take place, and you have all the symptoms of aneurism.

3. A peculiar deposition is often connected with aneurism.

When an aneurism takes place, there is a deposition of lymph in layers, which, becoming organized, forms what surgeons call the sac; but in several cases on dissection I have found considerable dilatation of the arch of the aorta and of the abdominal aorta not formed like the aneurism of surgeons, and sometimes there is rupture. The aneurism

of surgeons consists in inflammation and the deposition of coagulable lymph, which forms the tumour. Patients with this dilatation I have often seen die of rupture suddenly, from agitation of the mind, &c. When patients die of aneurism they often die this way, but more frequently from repeated hemorrhage. I have known individuals who have died of aneurism of the arch of the aorta where the disease was not suspected.

THE SYMPTOMS OF ANEURISM OF THE THORACIC AORTA

are very various, because it takes different directions. When it presses on the trachea, it may produce symptoms of suffocation, or of irritation of the air-passages; when it presses on the œsophagus, it may produce symptoms of some affection of this part; when it presses on the spine, producing absorption of the bone, it may occasion paralysis of the lower extremities; when it presses on the parts in the chest, it may produce inflammation there. Sometimes a stronger pulsation than natural is felt at the upper part of the chest, not exactly corresponding with the pulsations of the heart. On exposing the neck and chest, a circumscribed tumour may sometimes be seen, variously situated. A peculiar jar is evident, when there is dilatation, about the right extremity of the left clavicle and the left extremity of the right clavicle, the pulsation extending from one side of the sternum to the other, whilst the pulse is tranquil at the wrist. The patient generally has a cough more or less; and he has pains in different directions which are not accounted for. On severe exercise he is liable to palpitations and difficulty of breathing. In some cases of aneurism of the aorta the patient can only sit or lie in one position. The pain which is felt in different parts arises from the pressure which is made on various nerves. A friend of mine was consulted by a patient who was supposed to have rheumatism in his shoulder; on examining the parts minutely he found a subclavian aneurism. In pains of the limbs, or of other parts connected with large arteries, ascertain their state. Sometimes glands are seated near arteries; and I lately saw a case of this kind where there was pulsation. These are secondary, and are not connected with the pulsation of the arteries. In subclavian aneurism you find less jarring in the chest, and the patient is less affected on motion. The most common of the—

SYMPTOMS OF ANEURISM OF THE ARTERIA INNOMINATA,

is uneasiness referred to one part of the neck. Sometimes there is difficulty of swallowing referred to one particular part of the œsophagus; and sometimes the patient can only drink in a particular position. Generally there is a jarring at the sternal extremity of the right clavicle; this is a remarkable circumstance. One remarkable thing is, that the pulse is generally smaller at the right wrist than at the left; and there is a huskiness of the voice, with a chronic dyspnœa, frequently becoming spasmodic. When you find these symptoms existing, the presumption is strong that aneurism exists in the arteria innominata.

SYMPTOMS OF ANEURISM OF THE ABDOMINAL AORTA.

Aneurisms are existing sometimes in the abdominal aorta, especially from great exertion in a bending position, or from riding very hard. It is common in young persons, and in old persons it is exceedingly common to find strong pulsation of the abdomen, which is entirely independent of aneurism. Occasionally it is associated with an overloaded colon. It occurs also occasionally in cases where the stomach is disordered, and also in cases of disease of the spleen. Be very careful in persons of exceedingly advanced age not to mistake an aneurism for what might appear to be disorder of the stomach, liver, or bowels. I was consulted in a case of what was supposed to be indigestion; and in the epigastrium I found an aneurism of the abdominal aorta pressing on the stomach and bowels. When aneurism exists you sometimes find a circumscribed pulsating tumour.

MEDICAL TREATMENT OF ANEURISM.

In aneurism you must observe the rules I have before mentioned: diminish the quantity of the circulating fluids, and lessen the heart's action by a moderate diet, a still life, a quiet mind, &c. This is all that can be done. An English writer has said that grief is the sickness of the mind; and it is generally attended by bodily sickness. In all these cases remove as much as possible all anxiety from the patient's mind. In the upper ranks of life a medical man has little power this way; but in the lower ranks he often has very great influence of this kind, and can often soothe the patient's mind very much. If I had to begin my

professional career again, I would pay much more attention than I did to the lower orders. No character is so contemptible as an individual who pays attention only to the upper and middle ranks of society, and neglects the lower classes: and, independently of the satisfaction derived from the consciousness of doing good, it is the best plan by which a medical man can get into practice. No man, I believe, who is attentive to the lower orders will fail of getting into practice; they are exceedingly grateful for what is done for them, and you may thus lay the foundation of a reputation which is not transient, but permanent.

LECTURE LV.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF CHRONIC DISORDER AND DISEASE OF THE STOMACH, LIVER, BOWELS, AND PERITONEUM.

IN the next place I shall proceed to make some observations on that disorder of the stomach, liver, and bowels, which I have so often mentioned. You are aware that the terms dyspepsia, indigestion, and disorder of the digestive organs, are exceedingly common at this time; they are not only common in the mouths of medical men, but in the mouths of the public, and perhaps no terms have been more vaguely used than these. What I mean by disorder of the stomach, liver, and bowels, is a simultaneous affection which very often indeed occurs in children. A slight degree of irritation in the mucous membrane of the stomach, not amounting to inflammation, and which we rather infer;—we infer it because certain articles of food irritate the stomach, which produce no such effect in health, and generally there is some preternatural redness of the papillæ of the tongue;—generally there is a torpid, sometimes an irregular, action of the liver, made obvious by the appearance of the stools, indicating sometimes a deficiency, sometimes a depravity, of bile; sometimes there is a gush of unhealthy bile, and sometimes there is too little bile;—there is also torpor of the bowels; the evacuations are smaller, or the bowels are more confined than natural, showing a torpor or irregularity of the bowels. Very often there is a simultaneous irritation of the mucous membrane of the intestines and stomach.

An affection has been called marasmus among children; and an affection has been called dyspepsia among adults: these are precisely the same affections modified by habit and age. Marasmus and dyspepsia arise generally from the same occasions; only two remote occasions of it occurring in adults which do not occur in children. You may generally trace marasmus to some error of diet, to some error of drink, to imperfect clothing, or the influence of a variable or vitiated atmosphere. The same occasions operate on adults; and in them you have two additional exciting agents, which are the state of the mind, and

the use of diffusible stimulants. A great many cases of disorder of the stomach, liver, and bowels, can be traced to affections of the mind. This is one reason why the stomach, liver, and bowels, are apt to be disordered in London, where the mental energies of individuals are so much depressed or elevated. Very few individuals who drink much wine, or much spirits, or much malt liquor, especially if it be acid or strong, live long without being liable more or less to disorder of the stomach, liver, and bowels. This often leads to disorganization of the stomach, liver, or bowels: most frequently of the liver; and it is remarkable that, if spirits be given to the lower animals, the liver becomes diseased.

MARASMUS.

The signs by which this combined disorder is to be known in children are the following :—the face is almost invariably more pale than natural; the tongue is furred at its root; the bowels are generally fuller than natural; the stools are either deficient in quantity at one time or excessive at another time, and they are of an unnatural character. The upper lip is generally more swollen than natural; the extremities are withered; and the temper is fretful. This frequently goes on week after week without fever; but if it be allowed to go on, it winds up by an attack of insidious fever, or an attack of acute, sub-acute, or chronic, inflammation, which will be seated in different parts: sometimes in the stomach, sometimes in the liver, and so on. Very often before fever occurs the general health gives way, either slowly or rapidly; and if disorder of the stomach, liver and bowels, occur in scrofulous families, the external glands are often swelled, and very often you will find ill-conditioned inflammation affecting the bones; and the attacks of scrofula which occur in broken-up habits, both in children and in adults, are generally preceded by this combined disorder. In almost all the bodies of the tabid children of London who die from the effects of disorder of the stomach, liver, and bowels, tubercles are found, very often in the cellular connecting membrane of the lungs; very often in the pleura; very often in the peritoneum: sometimes large, and sometimes only the size of millet seeds. With respect to what has been called—

DYSPEPSIA,

in adults, you have here the same set of symptoms: the tongue furred:

the temper fretful or depressed ; the same irregular colon ; a pale face ; and an irregular or torpid liver ; flatulency, acidity, &c. ; and frequently it winds up in chronic inflammation, which inflammation may have its seat in the stomach, in the liver, or in the intestines. Many diseases which have the character of dyspepsia are complicated with inflammation. In many cases on dissection you will find no disease of the stomach, liver, and bowels ; but let it go on, and it is sure to wind up with inflammation either of one or other of them.

This inflammation has three stages generally :—

1. Generally there is only an increased secretion of the part, with a preternatural quantity of blood.

2. The part in which the inflammation is seated is generally thickened, and softer than natural.

3. Ulceration occurs. These remarks apply to almost all cases of chronic inflammation. Different structures, however, are differently affected. If it occur in the stomach, it often induces what has been called scirrhus of the pylorus. The rectum, if it be the seat of the inflammation, is also liable to a scirrhus condition. Scirrhus is a very vague term as it has been used by medical men ; applied to the stomach and rectum it generally means thickening where the inflammation has been seated. It more frequently winds up by ulceration in the ilium ; and in the upper part of the colon it generally winds up by ulceration. In another individual inflammation leads to disorganization of the substance of the liver ; in another the peritoneal coat becomes inflamed. This seems to depend on local predisposition.

If there be inflammation of the peritoneal coat of the stomach, the tongue is generally pale down to the end, and there is pain on pressure in the epigastrium ; the stomach is more or less disordered by flatulence, nausea, retching, or vomiting ; most commonly also there is a pale face, shortness of breath, a pulse a little quickened, and gradual emaciation. It is most common in females.

If the mucous membrane of the stomach be affected, the tip of the tongue is vividly red ; the papillæ are red and raised ; and there is pain on pressure. When you see the tongue all over red, and seeming inclined to be aphthous, as it frequently is in the last stage of consumption, it is then generally combined with irritation of the mucous membrane of the bowels, and a tubercular state, most frequently situated in the jejunum, or in the ilium, or in the proper peritoneum.

When the mucous membrane of the intestines is inflamed you have the tongue vividly red at its tip, and pain on pressure over the parts,

with often some degree of fever ; and the stools most frequently contain more mucus than natural, so as to have an oleaginous and morbid character.

When the liver is the seat of inflammation, the only symptom to guide you is the pain on pressure, if you trace it from the spine to the epigastrium, in the direction of the large or of the small lobe of the liver. Sometimes the inflammation is seated in one, and sometimes in another part of the liver ; and if, therefore, you do not examine by making pressure both from the spine and from the sternum, you may overlook it. You mostly have a depravity or a deficiency of bile ; and very often the urine is distinctly tinged with bile. Frequently the spirits are depressed ; there is a weight or uneasiness in the middle of the sternum, a dry cough, and pain shooting up to the shoulder from the side. You may be assisted in your diagnosis by these symptoms : by aching across the forehead, by the dirty white fur at the root of the tongue, and by the patient not being able to lie on the left side without a dragging sensation. Sometimes the skin has a yellowish tinge. It is very often combined with an irregular fever of an intermittent character ; and sometimes ends in suppuration. On examining the body after death you sometimes find the substance of the liver mottled, or grey, and hard, or like gingerbread. Sometimes it is simply enlarged, so that you feel its edge through the abdominal parietes, and its uneven surface may be felt during life. Sometimes it is tuberculated ; and this frequently arises from the abuse of mercury. And so I am convinced does the grey granular hardness combined with a varicose state of the vena portæ.

When there is chronic inflammation of the peritoneum you have generally a round distended belly ; the pain is diffused over the whole abdomen ; and the tongue is pale. This state of the abdomen often exists with a tubercular peritoneum, being generally preceded by a break-up of the general health : generally then there is no pain for a long time ; but when the tubercles enlarge and excite inflammation, the peritoneum becomes distended. Sometimes you have a swollen belly, with pain on one side of it, and a pale tongue ; and then the inflammation generally is seated on a small portion of peritoneum covering the intestines, which at length are glued together ; it goes on for some time, and thus what seems to be a tumour is formed.

Many individuals have all the symptoms of dyspepsia from an affection of the brain ; and then you will often see a remarkably rough tongue, almost like velvet. Of this I have formerly mentioned in-

stances. When the stomach is disordered secondarily from the head, by tracing its progress and origin you will be often enabled to draw a fair inference as to the original disease. The inference which is to be drawn is important, because all these symptoms, together with uneasiness, numbness, or tingling in the extremities, may arise also from inflammation of the spinal cord, as I saw in the case of a pupil of this school. Affections of the brain and spinal cord very often disturb the stomach, liver, and bowels secondarily. These affections when seated in the abdominal viscera, then, are various.

TORPID LIVER AND COLON, WITH IRRITATION OF THE STOMACH.

The most common form of dyspepsia in the first stage in children and adults, is a torpid liver, a torpid colon, and slight irritation of the stomach. In a child, then, you may give one grain of calomel, now and then, with a few grains of powdered rhubarb or of the extract of rhubarb, followed up by infusion of senna or a little cold-drawn castor oil. The calomel may be given every second night generally. If the breath and stools be sour, a little magnesia may be given. Early rest and fresh air (in the bed-room especially), are required; and warm clothing is essential, because when the skin is chilled the liver is congested. Use a tepid salt water bath about twice in the week, and regulate the diet, taking care that it is simple in kind and moderate in quantity. By this treatment you will generally in a few days succeed in removing the complaint. If the diet be neglected you will find physic of no avail. The diet generally is exceedingly important, not only as to kind and quantity, but as to the manner of masticating it. Almost all persons who swallow their food hastily without sufficiently masticating it, become the subject of disorder of the stomach, liver, and bowels. A most important improvement will occur from eating the food slowly, and thoroughly comminuting it; and therefore in those cases it should always be recommended. If there be no fever present, if the skin be cool and the pulse slow, animal food once a day, is generally very beneficial; plain stale bread should be taken morning and evening with milk, and perfectly plain vegetables with very plain pudding at dinner. All pastry and unnecessary additions to the diet should be avoided, also all dried fruits, and all recent fruits which have skins or seeds. If any thing be taken in the interval between the usual meals, let it be simply bread and water. In regulating the diet of adults we must take into account the previous habits; for if the patient be advanced in

life, a gradual, but not a sudden, change must be made. If free from fever, he may take three meals in the day, at intervals of about five hours, masticating the food slowly, and resting for some time after each meal. In the morning tea or coffee and stale bread will suffice, unless the individual be very active, and then a little meat may be added. Between breakfast and dinner nothing should be taken, unless it be plain biscuit or bread and water; and at dinner animal food may be taken with plain vegetables, which, if there be a tendency to flatulency, should be taken in small quantities. The evening meal may be like that of the morning, without the meat; and if any supper be taken in cases where it has been a long established habit, it should be light and spare. Sometimes the desire for food greatly exceeds the power of digestion; and if you cannot get the individual to lessen the quantity of food, you must give him a little wine or home-brewed ale. If there be a tendency to repletion, large quantities of drink should be abstained from. The best diaphoretic is a tepid salt bath; but if there be pain it should first be relieved by leeching.

This state if neglected is very apt to assume an inflammatory character; and it is astonishing how rapidly the system recovers as soon as the inflammation, which may be acute, sub-acute, or chronic, is subdued. When it advances it generally implicates the mesenteric glands, and the body wastes, at first without fever, but after a time the consuming hectic comes on, and the patient dies.

CHRONIC INFLAMMATION OF THE STOMACH.

In every case of indigestion be very particular in your inquiries. In some you will find the cause mainly or entirely in the stomach, and that very often is chronic inflammation. Then a farinaceous diet is best; for instance, barley, groats, or oatmeal, or flour, that have been baked to prevent their turning acescent. Apply a few leeches to the pit of the stomach in the first instance, give a mild aperient occasionally; and this with the alterative plan will be sufficient to remove the affection. Food should not be taken oftener than once in four hours.

Here I may allude to some symptoms occasionally produced by affection of the stomach; and first of—

ACIDITY.

Acidity is referrible to hasty eating, to some error of diet, or to

taking exercise too soon after a meal ; the most frequent occasion, however, is some improper diet. - Vegetables, if they be taken in large quantity, and especially if they be taken without pepper, will produce this affection. New bread in large quantity, or even in any quantity, will sometimes produce it. This effect will sometimes be prevented by a tea-spoonful or two of brandy taken after a meal. I am told by one gentleman, who is now present, and for whose opinion I entertain a high respect, that he has seen about two drachms of the compound tincture of senna produce the same good effect. If vegetables be taken by persons who are subject to this affection, they should be mixed with either black or cayenne pepper.

GASTRODYNIA,

another affection of the stomach which is by no means uncommon, consists of violent pain after eating. It is one of the most common causes of scirrhus of the pylorus. Persons who eat their food hastily, or eat indigestible food, in two, three, four, five, six hours, or immediately, are seized with violent pain in the stomach, and feel as if something were pressing against the pylorus, accompanied by acid eructations and distention of the stomach. This is generally relieved almost immediately by brandy combined with a little opium ; half a glass of brandy will generally produce relief, and if it fail, you may give a full dose of opium. In some patients hot water or strong tea answers very well. It may, I believe, lead to inflammation or scirrhus of the pylorus. Warn individuals against the source of it, which generally is eating hastily. In these cases the patient should take care to masticate his food very slowly and minutely ; and rest after a meal, more especially after dinner, is necessary. If these points be attended to medicine generally is not necessary. If this affection exist in conjunction with acidity, a small quantity of magnesia, of carbonate of potass, of carbonate of soda, or of subnitrate of bismuth, may be given ; of these, the last is the most efficacious. These observations are applicable also to cases of irregular spasms of the colon.

Another affection is—

VOMITING ;

and you should recollect that vomiting is a mere indication of some disorder, and that it is necessary to ascertain its precise cause.

1. Sometimes it proceeds from sheer exhaustion. Thus, when you have abstracted a large quantity of blood from a patient, he generally begins to retch or vomit: this state is relieved by cordials.

2. It very frequently arises from pregnancy, and in these cases it is sometimes very urgent. A very curious circumstance is, that the appetite remains good; the person vomits in the morning, or throughout the day, and directly after this she feels as if she could eat. This vomiting is generally relieved more or less by regulating the diet, by regulating the bowels, and by an effervescing draught, or by soda water. The internal exhibition of fixed air certainly diminishes very remarkably the irritability of the whole system, and especially of the stomach. I have seen a patient sleep comfortably from two or three effervescing draughts taken in the evening or through the night. A pupil of mine, who is now in practice at Exeter, has written me an account of two cases of excessive nervous irritability, in which every usual remedy had failed, and yet he completely subdued the morbid affection by the application of carbonic acid gas to the back in the course of the spine. And the external application of fixed air is certainly deserving of attention as an anodyne in cases of excessive irritation where the ordinary remedies have failed.

3. Vomiting may arise from excessive feeding. Nothing is more common than to see persons who eat an uncommon quantity of food occasionally vomiting and complaining of the weakness of their stomachs. Two things will cure the symptoms under these circumstances; namely, rest and starvation for eight or ten hours after taking an emetic. The patient then generally recovers the tone of the stomach, and has a very good appetite. And if there be irritability of the mucous membrane of the stomach, you may apply a few leeches to the epigastrium.

4. Vomiting sometimes arises from what is called scirrhus of the pylorus. If you see a person with a faded skin, of an emaciated habit, complaining of occasional attacks of violent pain in the stomach, with a sensation as if the food were thrust against the pylorus, but being unable to pass, and vomiting a glairy mucous fluid like white of egg mixed up with the food two or three hours after a meal, the strong presumption is that the person has scirrhus of the pylorus, which is the condition upon which the symptoms depend. And I would say of scirrhus of the pylorus, that it is almost always, and as far as my observation has extended, always, the product of inflammation. This may be palliated by opium, rest, and a bland diet.

5. It may arise from acute, sub-acute, or chronic, gastritis.

6. From organic affections of the liver.

7. Vomiting of blood may arise by exudation from the mucous membrane of the stomach, as the black vomit in fever. Sometimes black bile regurgitating, a substance is vomited like tar in appearance. Sometimes in females vomiting of blood is vicarious of the menstrual discharge, in consequence of some fault in the colon; and in drunkards it is generally produced by obstruction of the liver, and then calomel should be given if the stools be clay-coloured: if the quantity vomited be large, and the patient exhausted, a full opiate should be given.

CHRONIC TORPOR OF THE LIVER.

In the liver there is sometimes torpor, and then you have no pain; but a deficiency, or a depravity, and sometimes an excess, of bile is shown in the stools. It is very apt to end in chronic inflammation. Here you may give one grain of calomel every other night and an aperient next morning, and regulate the diet. These, with exercise in the open air twice or three times a day, early hours of rest, and the use of the tepid bath, will soon remove it. Animal food may be given in these cases. In many chronic affections where the liver is concerned, and there is a deficiency of bile, and in cases where constipation is connected with torpor of the liver, mild emetics are beneficial, especially if the skin be dry and husky. Dragoons are less liable than foot soldiers to affections of the liver. Hence I infer that horse exercise is of service, except immediately after meals, and then rest is desirable for half an hour or an hour if possible; this, however, is very much influenced by habit. Many persons go to work immediately after eating, but those who rest at that time generally have the best health. The tepid salt bath will restore the natural state of the liver if persevered in twice or three times a week, even though mercury should fail. Sulphur baths have a similar effect; but when the skin is dry and harsh, frictions and soaping should be used at the same time. The flow of bile is more copious in summer than in winter, and this is connected with the state of the surface.

If there be—

CHRONIC INFLAMMATION OF THE LIVER,

abstract blood by leeches till the pain ceases, and then adopt the plan I have just mentioned, with saline purgatives, colchicum, and blisters.

Mild doses of mercurial medicines are preferable to large ones: three, four, or five grains of blue pill may be given every other night, or a little calomel or hydrargyrum cum cretâ. Mercury is a direct irritant of the liver, and I know no occasion so productive of organic affections of the liver as the excessive use of mercurial preparations: they seldom require to be given night after night in chronic affections, as is often advised.

Sometimes these chronic affections cannot be removed, and you may gently affect the mouth with mercury; and if you leech at the same time, and keep the skin cool, you may always affect the gums with very small doses of mercury. I have in a former lecture alluded to the operation of chlorine upon the liver. Rest is very important; many cases will not subside unless the patient will keep the recumbent posture. In chronic inflammation and enlargement of the liver, I have heard Dr. Baillie say that setons applied in the integuments over the liver are very beneficial. Be cautious, however, if there be a pulsating tumour, lest hemorrhage occur. Setons sometimes do good by producing a quiet state of mind; for many affections attended by pain, or to which the attention is directed, are aggravated by notice; for instance, ophthalmia and irritable bladder, which are increased by talking about them. Issues are much less used in chronic hepatitis than formerly.

JAUNDICE

may arise from various conditions.

1. It is sometimes an attendant upon fever. In some instances there is no obstruction in the liver or ducts, but such an excessive secretion that the bile cannot readily pass off.

2. But sometimes there is an obstruction, and then the stools are not tinged with bile: for instance, it is sometimes produced by a foreign body, as a gall-stone, occupying the duct, in which case the patient suddenly complains of a severe agonizing pain in the region of the liver, shooting through to the back, with retching, vomiting, and a tranquil pulse. He suddenly recovers, and perhaps the next day his skin is yellow, and if the stools be examined the stone may be detected in them. In the paroxysm smoking tobacco is the best remedy: it operates by producing relaxation. Exercise on horseback, by removing the stones while small, prevents them from becoming very large. Sometimes it arises from an enlarged pancreas pressing on the liver;

these cases are mostly fatal. In one case jaundice was connected with a tumour in the mesentery which pressed upon the ducts.

3. Sometimes it depends upon a spasmodic contraction of the ducts independent of inflammation.

4. Sometimes jaundice is produced by inflammation of the mucous membrane of the ductus communis choledochus producing thickening and diminution of the caliber until the duct becomes obliterated, and the bile accumulating in the gall-bladder ruptures it, and fatal peritonitis follows. This inflammation is generally an extension of the affection from the duodenum.

If there be—

CHRONIC INFLAMMATION OF THE SMALL INTESTINES,

if it be in a slight degree, it will generally require a mild treatment; leeching, with a bland diet, rest, mild alteratives, and gentle laxatives, will almost invariably remove it, if you use the tepid bath. If the patient be strong you may bleed him from the arm; but generally leeches are preferable.

CHRONIC INFLAMMATION OF THE LARGE INTESTINES.

Here the same treatment is required. Much as I personally respect Mr. Abernethy, it is my duty to say that the vague manner in which he has used the term disorder of the digestive organs is exceedingly injurious. In one case you find the stomach, in another the liver, in another the large or small intestines, inflamed. The blue pill and flesh diet would be prejudicial in these cases. In all cases where the liver is torpid this plan answers an admirable purpose, but when it passes on to inflammation it is very injurious. I have pointed out, therefore, the distinguishing pathology of these affections, and you will find the treatment of these affections is precise, if you attend to the conditions on which the symptoms depend. When inflammation does occur, it constitutes the main or sole object: for unless it is removed it goes on and winds up by ulceration. I have seen a lady the subject of diarrhœa without any pain for many months. Dissection revealed a most extensive chronic inflammation of the colon, which often goes on thus insidiously.

Torpor of the liver is very common; but still more common is—

TORPOR OF THE COLON,

which is very often the effect of a torpid liver. The bile seems to perform two offices in the animal economy. The first use is to convert the chyme into chyle. Those old persons whose stools indicate a deficiency of bile never digest well; they commonly complain of the food feeling like a load in the stomach; torpor of the bowels occurs, and they generally waste, because chyification does not take place well. In the second place, bile is connected with the regular action of the large intestines, which are invariably torpid when the bile is deficient. One very common error is committed in examining the stools. If the bile be secreted in a concentrated state, sometimes it leaves a deep-brown appearance of the stools: bile is not deficient here; for if you wash them in water, the water will be tinged. Sometimes they are dark and clayey, and when washed do not communicate a yellow tinge to water, and then there is a deficiency of bile. Neglect of regular evacuations is one occasion of a torpid colon. It most commonly, therefore, occurs in females. They are very delicate, and something occurs which prevents their going to a water-closet; and thus a habit is formed. Very often it occurs in men oppressed by business; they are prevented by want of time from evacuating the bowels, and then sometimes the muscles about the rectum refuse to act, the peristaltic motion of the gut is unable to overcome the sphincter ani, and the individual is not able to obtain an evacuation. The custom of procuring a daily alvine evacuation habitually is very desirable, with some exceptions; for I know some individuals who would be ill if they had a stool every day. A very eminent physician told me that he never was well unless he had an interval of two days. Sometimes it may arise from smallness of the sigmoid flexure of the colon. This goes on, and a gradual accumulation takes place, until the colon becomes excessively distended. Very often patients complain excessively of the stomach with this state of the colon; they have a capricious state or a prostration of appetite, with distention after a meal. In many individuals, if they omit an evacuation at a certain time, a rending headache torments them all the remainder of the day. In some instances I think such an accumulation in the colon leads to disorganization of the heart. It certainly sometimes produces palpitations; and two friends of mine, in dissections of such subjects, have found the thoracic portion of the aorta dilated very much, and the abdominal aorta diminished. These patients generally have

cold feet. Affections of the head are exceedingly common from a distended colon ; and anomalous pains occur in the stomach, bowels, &c. Sometimes there is a spasmodic affection of the bladder ; many are liable to great irritation of the neck of the bladder ; and sometimes retention of urine occurs from this cause. The first case I attended when I settled as a young physician (at Sunderland) was of this kind. An old gentleman had been for many years supposed to labour under organic affection of the bladder ; every now and then he had spasmodic pain in the region of the bladder, with difficulty of passing the urine, and sometimes painful retention ; and about once in six weeks he obtained temporary relief by what was supposed to be a diarrhœa, containing numerous scybala. Dr. Hamilton, of Edinburgh, was passing through the place, and I requested him to see the patient, which he declined ; and it was afterwards intimated to me that he did this from motives of delicacy, thinking that as I was a young physician the case might be of use to me. I thought there was an affection of the colon, and put the patient under a course of purgative medicines, and he got remarkably well. He was a kind-hearted old man, and this case was worth £200 a year to me while I stayed at Sunderland, because the condition of body upon which the symptoms depended had been overlooked by those who had previously attended him. If a medical man succeed in such cases as these, it is surprising how much good they do him. I think the second case I was consulted upon when I came to London was that of a lady who had suffered for years from violent colic. The abdomen was immensely enlarged, and I could distinctly trace a distended colon, which was plugged up with scybala. She laboured under what she called diarrhœa every now and then, the stools being like thin mud, in which scybala were detected in pouring it from one vessel into another. I put her under a purgative plan, and she got well. It is surprising how grateful she was ; and I am quite sure that case has been worth £300 a year to me ever since. This is exceedingly common in sedentary persons, and leads to a variety of anomalous symptoms. You will detect this by an examination externally ; for you may feel the colon hard, distended, and irregular : but if you examine the stools the case is quite evident, mud-coloured stools being often passed. Chronic inflammation of the liver sometimes appears to be the occasion. The abdomen is distended, and the tongue is furred ; the breath is fœtid ; the pulse is slow, and the skin cool ; the stools are generally black. On the exhibition of brisk purgatives an evacuation of an enormous quantity of scybala will follow.

If there be no deficiency of bile there is no need for calomel; but calomel must be given if there be a deficiency of bile. It is a good plan, however, in all these cases, to begin with three grains of calomel with a little jalap or rhubarb, followed up by cold-drawn castor oil; afterwards you may give decoctum aloes compositum, or castor oil, daily, for a fortnight; cold-drawn castor oil, I think, is upon the whole the best, combined occasionally with some resinous purgative, as aloes, or, if you can get them carefully prepared, extracts of jalap or of rhubarb. Warm gums with purgatives are better than cold medicines; for instance, the bowels will often act readily if you give aloes with myrrh, or ginger, galbanum, or assafoetida, in cases of torpor of the liver or colon. The exhibition of a glass of wine warm with cloves, makes some purgatives operate easily. In cases where the bowels are slow, a pill before or after dinner is very good; and there are two forms which you will find useful. If the appetite be good and the evacuations scanty, it necessarily follows that the colon is overloaded, and in this case the best pill consists of five grains of rhubarb and one grain of perfectly fresh Castile soap, for if rancid, it disagrees excessively with the stomach, and sometimes even when quite fresh, and should then be omitted. If this should not answer, one of the best pills is made of two or three grains each of aloes and extract of gentian. The London dinner pill is a very good thing. Aldermen generally have a box by them, and swallow one slyly before dinner. A very good aperient in torpid colon is five grains of the compound extract of colocynth, to which, if the patient be irritable, you may add five grains of extract of henbane, which will prevent griping. Sometimes enemata of warm water with a little soap or salt are very beneficial.

I wish tea or coffee without milk or sugar were introduced into England as a substitute for wine after dinner. In London we have what may be called commercial dyspepsia, and it is right in the treatment to have an especial regard to the state of the mind.

COLICA PICTONUM,

is connected with torpor of the colon. In colic arising from the inhalation of the fumes, or the use of the preparations, of lead, which may be taken into the stomach or absorbed from the skin, the colon is excessively torpid, not evacuating its contents for ten days or longer, and in the first instance there is bilious vomiting. The pain about the umbilicus, which is quite constant, is every now and then aggravated

by a violent spasmodic attack. In this case the patient bears gradual pressure, not only without pain, but with actual relief. The skin is cool, and the pulse slow. After repeated attacks the patient is liable to become paralytic, most frequently in the upper extremities. It sometimes passes into inflammation; and when the attack has been removed it is readily renewed by cold, constipation, &c. The colon is invariably relieved by a combination of calomel and opium carried to ptyalism. You may give, for example, one grain of opium and one, two, or three grains of calomel every six hours, and then you will find the pulse rise, the skin become warm and moist, and the bowels obedient to the mildest aperients. When the symptoms are very urgent bleeding may be required. As mercury is beneficial in affections arising from lead, perhaps it would be worth while to try if lead would be of service in diseases arising from mercury. Persons who are called improperly water-gilders, and who are exposed to the fumes of mercury, become irritable and weak, and then paralytic. Paralytic affections produced by lead are removeable by mercury. We must not, however, in physic, take any thing as true from reasoning *à priori*; nothing but what is proved by experiment is to be taken for granted, and therefore, probably this suggestion deserves no notice.

This torpid state of the colon is connected with affections of the rectum; and chronic inflammation of the colon is very often the consequence of a torpid colon. More blood, it is admitted, accumulates in the colon when it is distended than when it is empty. This generally, I am sure, winds up with chronic and very often with acute inflammation. Sometimes it leads to—

STRICTURE OF THE RECTUM.

This is the consequence of inflammation, which is very often occasioned by constipation. There is first a spasmodic condition of the parts, then inflammation, ending in induration or genuine stricture. I believe that stricture of the rectum is by no means so common as writers would lead us to suppose. When it occurs it is a very formidable disease. One thing it is important to remember, that the patient has sensations on passing a motion of mechanical interruption. The best aperient is the introduction of a bougie. There are only two cases which you can confound with it.

I. A SPASMODIC AFFECTION OF THE SPHINCTER ANI.

This is very common in cases of overloaded colon. You introduce your finger, and find a difficulty, which you suppose to be a stricture; and therefore, before you give an opinion, you should unload the bowels.

II. PILES.

These are various diseases. Sometimes they are formed of an enlargement of the veins adjacent to the sphincter ani, which inflame, and afterwards acquire a cartilaginous hardness. A more frequent character of piles is, that there is an actual accumulation of a number of capillary vessels, forming a softish substance. Another tumour is one growing from the mucous membrane of the rectum, feeling like a grape, and which seems similar to tumours forming in the cellular membrane; these have been called piles. Almost all the subjects of piles are liable to constipation, as the consequence of a torpid condition of the liver and colon; and when small, they may frequently be removed by stimulating the liver and emptying the colon. A very good aperient is a combination of electuary of senna, sulphur, and cream of tartar. Castor oil is very good; but aloes and calomel are bad. Sometimes they may be removed by ligature; and then it is necessary to avoid including any portion of the skin. Before the operation, the stomach, liver, and bowels should be attended to, and the patient should be watched afterwards. They are to be distinguished from stricture by examination.

In examining the rectum, which should always be done after an evacuation, always use a bougie, after having made an examination with your finger lubricated with pomatum. I saw a lady whom I supposed to have stricture: she was attended by a general practitioner whom I knew, and as he had known the lady a long time, I requested him to make an examination. He assured me, after having done so, that she had no stricture. The lady was not satisfied, and consulted another medical man, who examined the rectum, first by his finger, and then by a bougie: he discovered a stricture beyond the reach of the finger, and relieved her very much by the repeated introduction of bougies. I have seen other similar cases. This shows the necessity of making the examination in such cases yourself. Some time ago I saw a case, with Mr. Scott, of stricture of the rectum, which he felt by

a bougie, though his finger would not reach it. When the stricture is seated within reach of the finger, it is surprising how it may be relieved; but no relief can be given if it be very high up. When the stools are passed, the patient feels a mechanical impediment, and the stools are small, compressed, or twisted like a corkscrew. Every now and then the patient is liable to eructations and attacks of violent pain, and the bowels are immensely distended, and there is pain on passing a motion. When these symptoms occur, there are strong reasons for suspecting stricture of the rectum. Sometimes an affection of the uterus, attended by bearing-down pains, is the consequence of stricture of the rectum in females. A surgeon told me that a gentleman had suffered from pain in the rectum, which nothing had relieved. On examining the rectum he found sticking there a small bone of a bird, which the gentleman had eaten some time before. This shows the importance of making minute examinations; and if, in any case, you can have the evidence of sight or touch, you know whether the disease admits of physical relief or not.

Sometimes blood is passed from the bowels: this might be called—

SANGUINEOUS DIARRHŒA.

It arises from one of three causes generally. 1. From that congestion of the vena portæ, which is occasionally the cause of serous or mucous diarrhœa, blood transudes from the mucous membrane of the small intestines. 2. In the advanced stages of inflammation of the mucous membrane of the bowels in many cases it arises, and a sudden gush is the consequence. I had a patient in the Fever Hospital, who had inflammation of the mucous membrane of the bowels, and suddenly lost a quart of blood. In these cases you must suspend the use of aperient medicines; for if you act on the mucous membrane of the bowels you will probably destroy the patient. A full opiate, if the tongue be moist, rest in the recumbent posture, and a bland diet, with gentle aperients afterwards, will be the best remedies. If the tongue be sticky, as in cases of typhus fever, the less you do the better. 3. Sometimes it arises from ulceration, and then you have symptoms of chronic disease. I saw a patient at Dulwich, who laboured under symptoms of obstinate inflammation of the stomach and abdominal viscera. He died suddenly one day; and on examination, the intestines were found full of blood, which had flowed from an ulcer seated about the pylorus.

In chronic discharge of blood from the bowels, I have known tur-

pentine succeed when every thing else has failed. I have known some persons from hot countries who have become extremely emaciated from chronic bleeding, and have been cured by moderate doses of rectified oil of turpentine.

HEMATEMESIS.

Hemorrhage sometimes occurs from the stomach. Very often an individual, who has a gorged state of the liver, will vomit suddenly a pint or a quart of blood, and in many cases the patient's life is lost, after large bleedings, by doing too much. The best thing will be a full opiate. It is surprising how opium saves life when large evacuations of blood occur without organic disease. This vomiting occurs suddenly in obstructed menses, and requires the same treatment. Sometimes it occurs in conjunction with a torpid colon; and then give opium first, and after the evacuation is allayed give gentle purgatives, with calomel if there be a deficiency of bile, which you must learn by washing the stools in order to examine them. Adopt a spare diet, and absolute rest; and almost all the patients recover.

Another affection has been called *petechiæ sine febre*, or, more recently—

PURPURA HEMORRHAGICA.

I never saw a patient with *petechiæ* in fever where they did not depend upon a bronchial affection. They most frequently occur without fever; and then I never saw a case which did not appear secondary of the disorder of the stomach, liver, and bowels, of which I have been speaking. To treat it successfully you must entirely put out the consideration of its being a specific disease, and attend to the disorder of the stomach, liver, and bowels. Place the patient in a fresh atmosphere; open the bowels very gently by cold-drawn castor oil, or give lemon-juice alone, or oxymuriatic acid, and the spots will rapidly disappear. The two last are excellent aperients in these cases. It sometimes happens that fever supervenes upon it, and then you may bleed moderately with benefit. *Purpura hemorrhagica* may be connected with an effusion of blood from the bowels: and then let the diet be simple and moderate if there be no fever; keep the bowels open with any mild aperient, and the patient generally rapidly recovers. I have known milk whey an excellent aperient in these cases. In some cases

of habitual constipation, half a pint of milk whey taken in the morning fasting will open the bowels effectually when other aperients have failed. Sometimes it winds up with what systematic writers call infantile fever;—inflammation about the mucous membrane of the stomach or bowels. The tongue becomes furred and vividly red at the tip; and there is some degree of pain on pressure, with a hot skin and a quick pulse. You may bleed moderately generally with very great benefit; and a farinaceous diet must be adopted. A farinaceous diet is to be preferred in all cases of febrile diseases with only one exception, and that is when external sores occur when the pathology of the internal fever is simple. When a surgical operation is performed, or, when an external sore arises and is followed by fever, the fever if slight is beneficial, but it ceases to be beneficial when internal inflammation occurs.

LECTURE LVI.

CHRONIC DISORDERS AND DISEASES OF THE GENITAL AND URINARY ORGANS.

CHLOROSIS

occurs occasionally about the period of puberty, and has been supposed to be peculiar to the female, but, except the condition of the menstrual discharge, it takes place also in males. It is indicated by a peculiar sallow or greenish hue of the skin, by a tongue covered with a dirty white fur, by clay-coloured stools, by a depraved appetite, accompanied with desire for eating unnatural substances, as cinders, &c., generally by considerable wasting of the body, and in the female by retention of the menses. In its progress it is attended by more or less œdema of the lower extremities, and sometimes by anasarca. It is invariably secondary of a local affection, chiefly of the stomach, liver, colon, and skin.

The functions of the skin should be restored by a tepid bath used twice or three times in the week, the surface being well rubbed with rough towels afterwards. The liver should be stimulated occasionally by moderate doses of some mercurial; the bowels should be daily opened by aperients—the decoctum aloes compositum with bitters answers best. The diet should be strictly regulated; it should be simple but nutritious. The patient should be warmly clothed, and live in a fresh atmosphere.

AMENORRHŒA.

When at the age of puberty menstruation does not occur, sometimes the obstruction is only apparent, not real; the menstrual secretion actually takes place, but owing to an imperforate hymen there is no external discharge. When the menses cease to flow at the usual period, after they have once appeared, there is said to be suppression; but whether amenorrhœa occurs under one form or another, it is generally secondary of disorder of the stomach, liver, bowels, and skin. Hence,

if you restore the functions of these organs to a healthy state, the menses will flow naturally. In suppression of the catamenia the patient is liable to some affections of the head, and at the same time the stomach, liver, bowels, and skin, are in an unnatural condition : here, where there is a full habit, it is necessary to abstract blood. In some cases of this form of amenorrhœa the menses are in a very irregular state—they are not constantly, but only occasionally, suppressed ; thus for two or three months there is no discharge, and then it takes place in excessive quantity. Horse exercise, or jolting on a rough road in a carriage, will be useful to females who have irregularity or retention of the natural discharge ; and dancing is a very pleasant way of taking exercise for the same purpose. When the ordinary remedies fail, aloes answers an extremely good purpose : the Hindoos from time immemorial have applied an infusion of aloes to the os tincæ with universal success. Injection of ammonia in small quantities has also been very advantageous. Electricity communicated through the pelvis has been serviceable. Dysmenorrhœa, or amenorrhœa difficilis, is sometimes rheumatic, and then it is relieved by colchicum : generally opium is beneficial in these cases, the stomach, liver, bowels, and skin, being at the same time attended to.

LEUCORRHŒA

arises from various causes : it is symptomatic of what is called dyspepsia. In nine cases out of ten it is the consequence of some disorder about the stomach, liver, bowels, and skin ; and when that is corrected the mucous discharge from the vagina will cease : but sometimes it arises from certain solitary and vicious indulgences, and it is exceedingly common amongst women of the town ; and sometimes it is symptomatic of an organic affection of the uterus. In some instances benefit has been derived from oleum terebinthinæ, tinctura lyttæ, decoctum tormentillæ, astringent injection, &c. ; but these are secondary remedies. Sulphate of zinc has been used in solution in leucorrhœa and in gleet. When it arises from dyspepsia a little wine is very beneficial if the digestion be defective and the patient have a good appetite.

MENORRHAGIA

is most frequently that occasional discharge which occurs in suppression of the menses ; and is generally dependent on some disturbance of the general health, referrible to disorder of the stomach, liver, bowels, and

skin. Among its exciting occasions are mental distress, the abuse of spirits and other diffusible stimuli, and general relaxation. Sometimes it takes place during pregnancy ; but these cases are rare. Sometimes it occurs from an abortion ; hence in married females always examine the discharge, that you may ascertain whether the placenta has been separated. Keep the patient at rest for some time, as by early over-exertion prolapsus uteri frequently takes place. When the lochial discharge is profuse, rest in the recumbent posture, opiates, and spare diet, are requisite ; for if the diet be too full, hemorrhagic reaction is apt to take place : hence what is called puerperal fever so frequently follows profuse lochial discharge. Sometimes it is connected with hydatids, and when these are discharged it ceases. It is very often an attendant on organic affections of uterus, especially towards the change of life. It should be treated by rest, mineral acids, bland diet, occasional anodynes ; and where the system is very much relaxed, very considerable benefit may be derived from port wine.

SLOUGHING ABOUT THE LABIA PUDENDI

is most frequent among children who are badly fed, badly clothed, and who sit up late at night. Inflammation takes place about the external genitals, which is followed by sloughing. It is almost invariably the consequence of some disturbance in the functions of the stomach, liver, bowels, and skin ; and if you remove that disturbance, the patients generally do well. In cases of sloughing opium will relieve the pain which attends that process.

In adult females there is sometimes an erysipelatous affection on the labia pudendi attended by pimples, which are remarkably hot and excessively troublesome from the itching they produce : restore the general health and it generally disappears.

CHRONIC INFLAMMATION OF THE UTERUS.

This is by no means uncommon about the period of what is called the change ; it takes place especially about the fortieth year, and is generally secondary of some disorder of the stomach, liver, and bowels. The tongue is furred ; the stools unnatural ; the skin sallow, the urine scanty and pink coloured ; and pain takes place in the region of the uterus, and this being continued, passes into chronic inflammation. Fre-

quently one of the kidneys is simultaneously affected. There is pain in the back, and a muco-purulent discharge from the vagina.

In the first instance, cupping on the loins may be had recourse to, and then the functions of the stomach, liver, and bowels must be restored to a healthy state. A separate bed also should be enjoined, as sexual intercourse increases the chronic inflammation; but this should be done with caution, as in some instances it has produced such great irritation and distress as have far more than counterbalanced the advantage proposed to result from it. When chronic inflammation arises about the uterus, and the patient breathes a bad atmosphere and is of uncleanly habits, it is very apt to pass into a sloughing sore; or if the general health be broken up by other causes, this also sometimes takes place. It is indicated by pain about the hypogastrium, hips, and back; a mucosanguineous offensive discharge; a withered appearance of the skin, with a pallid face and hands; and is almost invariably fatal. Very great attention is required to ascertain whether or not it is connected with syphilis.

When it has once taken place, and is not connected with syphilis, all that can be done is by palliatives: a regulated diet, rest, a fresh atmosphere, and a placebo to keep the mind at ease.

SCIRRHUS UTERI

is almost invariably the consequence of chronic inflammation. Scirrhus or cancer very often occurs in connexion with disorder of the stomach, liver, and bowels, especially if the mind be anxious. A naturally irritable mind, or a mind rendered irritable from the anxiety of situation, &c., has been the characteristic of all the cases of cancer which I have seen. I have seen many cases of scirrhus in the uterus and in the breast suspended by a remarkably spare diet. When it has taken place there is a more or less offensive mucous discharge, which is profuse at the menstrual period, accompanied by pain in the back and about the rectum, and difficulty of passing the urine. But these symptoms alone are not to be depended upon; and I recommend you never to trust to the mere appearance of the discharge; an actual examination of the parts must be made, and then the uterus is found hard. The general health suffers, and the external glands are frequently enlarged.

In the treatment it is of consequence to keep the mind at rest. A regulated diet should be adopted, and the object is to support the strength without increasing the heart's action. When the mind is anxious it

should be full; when at ease it should be spare, as milk. This with a fresh atmosphere, occasional cupping on the loins, and strict attention to cleanliness, will palliate the symptoms, if not successful in curing the disease. The great point is to detect the early symptoms of inflammation and remove them. I may here remark, that whenever you see any tendency to scirrhus of the breast in a married female, you should advise a separate bed. I saw a case last year where a scirrhus tumour became converted into an open cancer by pregnancy; and I have witnessed several similar instances; and I need not point out to you how much the condition of the breasts is influenced by gestation. About the period when the menstrual discharge ceases, if the diet be not spare universal plethora is apt to occur, from which may arise various affections of the chest, head, &c. In this way cancer very often arises. Many of these affections may be avoided by keeping the bowels open and adopting a spare diet at this time. Scrofula most frequently occurs in earlier life, but in some things there is a connexion between these diseases. They are both sometimes, though not often, strictly local. But in other cases, cancer of the lip, for instance, being removed, the disease will reappear in some internal part. I saw a lady whose diet was very full at the change of life, and in whose neck a small hard lump arose; it increased, became scirrhus and cancerous. Before death she had difficulty of breathing, and upon examination of the body a tumour of a cancerous nature was found pressing upon the right lung.

With regard to organic diseases in general, three things are of vast importance. The first is to appeal to the mind of patients and administer hope. The second is to keep the stomach, liver, and bowels, in good order; if possible rather by diet than by physic, but if this cannot be done, by a little mild laxative medicine. The third is to keep the circulation of the blood within bounds. By these three means you will lessen the patient's sufferings and prolong his life, and this is generally all that can be done in these cases. In internal scirrhus and fungous complaints the patient hardly ever obtains relief except from opium; for instance, in the horrible pain that attends scirrhus of the pylorus.

POLYPUS UTERI.

Polypi are of two kinds, firm and fungous. They are attended by a mucous, and sometimes by a bloody, discharge.

When connected by a narrow neck they may be removed, and after removal the patient recovers.

PROLAPSUS UTERI

is sometimes—more often indeed than is suspected—produced by an overloaded colon : the uterus is forced down by the immense accumulation of fæces. Getting up too early after delivery is a very common occasion of this affection, and so is standing too much at any period. It is brought on by occasions that relax the whole system, and sometimes by the introduction of wooden pessaries. You should endeavour to restore the general strength by rest, and by a fresh atmosphere. Keep the bowels open, but do not act on the rectum. Sponge pessaries may be employed, made of compressed sponge with a tape tied round it : one should be introduced in the morning, and removed at night ; a clean one should be used daily.

DIABETES.

In this affection the patient passes an immense quantity of urine with a taste like that of honey. The skin is remarkably changed : it is dry, constricted, and furfuraceous ; the tongue is generally red at the tip and edges, and furred in the middle ; the breath is sub-acid ; the gums swollen and tender ; the stools indicate a deficiency or depravity of bile ; there is a large or capricious appetite ; the patient is liable to acid eructations ; and there is an anxious, contracted countenance. Before death it often happens that the urine is diminished in quantity, and of a more natural quality. The kidneys have naturally been examined after death, and in some instances they have been found inflamed, but in others little or nothing morbid has been discovered, and from the peculiar state of the skin, stools, urine, &c., it is probable that the affection of the kidneys is the ultimate result of disorder of the skin, of the mucous membranes of the stomach and intestines, and of the liver.

In one instance, where the patient recovered, it was by the use of a vapour bath every second day. Opium surprisingly lessens the flow of urine. Both these act on the skin. We have not yet paid sufficient attention to the sympathies which exist between different organs. In the treatment, those remedies which restore the skin, the mucous membranes of the stomach and intestines, and the liver, to their natural state, are the means on which the greatest reliance is to be placed. Leeches should be applied to the pit of the stomach so long as there is tenderness

on pressure with a red-tipped tongue; and even, in some instances where the pulse is hard and the pain urgent, general blood-letting may be premised. The vapour bath alters, not only the quantity but, the quality, of the urine. Aperients, with calomel or blue pill occasionally, and attention to the diet, drinks, and clothing, are of essential importance. The German physicians prescribe emetics, which operate on the skin, and probably may relieve some cases.

CHRONIC INFLAMMATION OF THE KIDNEY

is not uncommon; it is frequently the consequence of disorder of the stomach, liver, and bowels, with an unhealthy condition of the skin. It is exceedingly common in sedentary females, whose stomach, liver, and bowels, are disordered, with the urine scanty and depositing a pink or white sediment. Sometimes an obscure pain comes on in the kidneys, and, if neglected, it passes into inflammation. Sometimes it is produced by a blow; and when the kidney is inflamed, calculi are very apt to form in it.

Chronic nephritis is indicated by pain in the region of the kidney; and the patient is often seized by a sudden pain in the testes, sometimes more severe than that in the kidney. There is very often a numbness or tingling sensation down the thigh, a painful desire to make water, and sometimes a copious pink or white sediment. If this sediment be examined, it is found to consist of small crystals. In some cases the patient passes immense quantities of pus, and afterwards sometimes gets entirely well; and then after death one kidney is found completely consumed, nothing but a capsule being left.

Cupping in the region of the kidneys when there is pain, a regulated diet, mild aperients, and an occasional tepid bath, may be employed. After the abstraction of a little blood these cases may be controlled almost entirely by a regulated diet. If the sediment be of a pink colour, alkalies assist in relieving the irritation; and if whitish, like lime, mineral acids, especially the muriatic, are serviceable, and will correct it without increasing the acidity of the stomach. The first point, however, in the treatment is to remove the inflammation.

In all inflammatory affections of the uterus, bladder, and kidneys, avoid giving harsh purgatives.

Two very important things in chronic diseases are, the diet, and drinks, and the rest. If you allow patients to go about in these cases you will do no good. The bladder is very much influenced by motion;

and both in nephritis and cystitis, if the drinks be stimulating the inflammation will be protracted. The same observations apply to chronic inflammation of the uterus. In chronic irritation of the kidney, bladder, and uterus, a hip-bath is exceedingly soothing, and often alleviates it when other means fail.

CHRONIC INFLAMMATION OF THE MUCOUS MEMBRANE OF THE BLADDER AND URETHRA

arises in the same way, in conjunction with the same condition of the stomach, liver, bowels, and skin. Affections apparently seated in the bladder, are very often connected with an overloaded state of the colon, which often makes persons subject to painful retention of urine. In the treatment there are two objects in view—to remove the disorder of the stomach, liver, bowels, and skin; and to remove the local inflammation. These may be accomplished by local blood-letting, which is generally necessary, and by mild aperients, with occasional alteratives, and fresh air. Nothing can be done in these cases without regulating the diet; and it is desirable to be very particular as to the water which the patient drinks.

When there is a calculus in the bladder, it is indicated by pain at the end of the urethra, frequent and painful desire to make water; the stream is liable to stop suddenly, and sometimes the urine passes only in drops; the patient can pass it generally better in one position than in another; the pain is generally most severe when the bladder is empty; and there is frequently a mucous sediment in the urine, and sometimes blood.

Copaiba will generally relieve a gleet if the balsam be good, and there be no stricture. It is on the whole a better medicine, in these cases, than cubebs, which have no power unless they contain the volatile principle; their efficacy is spoiled by keeping. Astringent injections of the acetate or sulphate of zinc are sometimes beneficial if these cases become chronic.

DISEASE OF THE PROSTATE GLAND

is most frequent in old persons, but sometimes it occurs in the middle period of life. The patient is very liable to attacks of irregular fever assuming the remittent or intermittent character; it has the cold, hot, and sweating stages, but the returns are not at stated periods, and it is

invariably preceded by pain in some part of the urinary organs. Sometimes the fever puts on the typhoid character. The patient passes his urine with pain and difficulty, and is liable to retention. There is a mucous discharge; and when he has had an evacuation he feels as if his fæces were retained. The only certain mode of ascertaining it, however, is by an examination. If a mucous discharge occur from the bladder, it often arises from irritation about the prostate gland, but sometimes from inflammation of the mucous membrane of the bladder.

With respect to the treatment, a great deal depends on the management of the diet. Milk food is the best if it agree with the patient, as it supports the strength without increasing the heart's action. Where it does not agree alone, it will with a small portion of alkali; or arrow-root may be tried. Whey often answers very well. The state of the stomach, liver, and bowels, requires attention. Castor oil is the best laxative. It is best to do without opiates; and it is only where the pain is urgent at night that they should be given. The catheter should be frequently introduced. If there be fever, local or general blood-letting, according to the strength and constitution of the patient, should be had recourse to.

LECTURE LVII.

SYMPTOMS, PATHOLOGY, AND TREATMENT, OF DROPSY.

THE subject of this lecture will be what is commonly called dropsy. The word dropsy is derived from the Greek word signifying water; and all the words which designate the different kinds of dropsy are derived partly from this word, partly from the appearance and the seat of the dropsy.

Dropsy takes place, first, in certain cavities of the body, as in the ventricles of the brain, in the canalis vertebralis, in the bags of the pleuræ, in the bag of the peritoneum, and in the tunica vaginalis. It very often takes place in the cellular membrane. Sometimes it occurs in cysts, as in the ovaries; sometimes in a single cyst, as a large hydatid. The ancients supposed that those persons who were leucophlegmatic, and those who were most lax and flabby in fibre, were most predisposed; but as the cause of dropsy is very various and may effect any individual, so we find dropsy affecting all classes. It is a very important part of modern pathology to ascertain the causes of certain symptoms. When dropsy was supposed to be a disease proceeding necessarily from weakness, almost all cases were fatal. But though experience has fully proved that the theory about weakness being the cause of dropsy is incorrect, it is surprising that such an idea still exists. Dropsy is a mere symptom; the effect of very different conditions.

PATHOLOGY OF DROPSY.

1. One cause of dropsy is inflammation; and there are many facts which show this. A child has inflammation of the brain, which runs its course in three weeks, and then the child dies: and upon examination the ventricles of the brain are found distended with fluid. Another child has symptoms of hydrocephalus internus, which goes on more insidiously; the bones give way, and the head becomes tremendously enlarged. It dies, and the body is examined. The convolutions of the

brain are found unfolded, and there is an immense bag of fluid in the centre: this is what is called hydrocephalus chronicus, and it is most frequently the result of inflammation. You have examples of the same kind in the spinal cord from acute or chronic inflammation. Acute or chronic pericarditis occasionally ends by dropsy of the pericardium or hydrops pericardii. Acute, sub-acute, or chronic inflammation of the pleura very often leads to hydrothorax, or dropsy of the chest. A child becomes immensely dropsical from inflammation of the lungs, especially after scarlet fever. On examination of the bodies of phthisical patients, an effusion of fluid in the chest is often found. In acute, sub-acute, or chronic inflammation of the peritoneum, you find effusion into the belly, which is then called ascites. Upon the same principle hydrocele occurs, or effusion into the tunica vaginalis. Inflammation of an erysipelatous kind produces an effusion into the cellular membrane. The veins of the lower extremities being inflamed, a French writer has found dropsy of the lower extremities take place, and the same in the upper extremities. When the vena portæ is inflamed, so as to prevent the return of blood through it, ascites takes place. Inflammation of the veins of the thigh is the cause of phlegmasia dolens, as appears by the paper which has been written upon that subject by my friend Dr. Davis.

But inflammation is not the sole cause of dropsy; for—

2. Another cause is some local obstruction to the return of venous blood. A German writer has given an account of the water-stroke, as he calls it. I have seen several examples of it. It is in fact a variety of congestive fever: it is an effusion into the ventricles of the brain. Upon the same principle you frequently find effusion taking place slowly into the head from chronic bronchitis, or from tumours or tuberculated glands pressing on the jugular veins. On the same principle tumours pressing on the vena cava ascendens produce abdominal dropsy. The liver when hardened by an effusion of lymph, presses on its returning veins, and produces dropsy of the belly. In pregnancy dropsy of the lower extremities arises from pressure of the gravid uterus on the iliac veins. An organic affection of the heart is a remarkable example of this cause of dropsy; as an affection of the valves of the heart, or of the aorta, or any cause which obstructs the free return of venous blood: the consequence is dropsy into the pericardium, into the cellular membrane, and into the belly. On a similar principle those persons become dropsical who are worn out from a want of rest. After a fever the patient sits up, and the heart's action is exceedingly feeble; blood

is not returned with sufficient freedom, and dropsy of the lower extremities is the consequence, and sometimes of the belly and chest too. If you tie an arm up for some time with a ligature, so as to impede the flow of blood through the veins, dropsy of the arm will be the consequence; and thus you may put the reality of this cause of dropsy to the test.

3. Another cause of dropsy is plethora, or repletion: an excessive quantity either of blood or of watery fluid. Dropsy from this cause is by no means uncommon, especially from plethora of blood. An individual whose habits have heretofore been active, suddenly becomes sedentary, and lives freely; swelling of the legs occurs, and he begins to breathe short, and sends for a doctor. In such individuals you may discover no symptoms of inflammation. There is a very expanded or a very oppressed pulse; the blood is rich and not buffy. I have seen several examples of dropsy appearing to arise from this cause. I saw a medical man who was dropsical from this cause. I attended a literary gentleman for dropsy, which he produced by good dinners and plenty of wine. Sometimes the pulse is intermittent or irregular. This form of dropsy is sometimes connected with inflammation, but sometimes it is not.

Dropsy of this kind sometimes arises from an excess of water. An experiment was made upon a dog; he was bled to syncope, and as soon as he recovered a large quantity of water was given him, and he became dropsical. I attended a gentleman for inflammation of the bowels. He drank a good deal of cold water one night, and he was completely dropsical the next morning. Hales made an experiment on this subject by putting water into the jugular vein of a dog.

No work on the subject contains so many valuable facts as that of Munro on Dropsy. It is an old book, and if you can lay your hands upon it I recommend you to read it.

4. In the next place dropsy arises from some change in the constitution of the blood, attended by some laxity of the solids. This will be illustrated by the case which I mentioned, Vol. I. p. 94; that patient's blood became very remarkably changed before the dropsy occurred. In chlorosis this occurs sometimes about the age of puberty: the skin, the stomach, liver, and bowels, are disordered; the feet generally swell; and the veins steal over the skin like blue veins in white marble. If you draw blood in such a case it sometimes scarcely leaves a stain on the linen. Put the disordered parts into a healthy condition, and all these symptoms disappear. This form of dropsy sometimes exists

without organic disease, and is simply the effect of disorder combined with a depraved state of the blood. Generally, however, this variety of dropsy is complicated with organic disease of the liver in the male, or of the uterus in the female. The state of the blood to which I refer, in which there is a deficiency of red particles and an overplus of serum, often attends organic diseases of the lungs, heart, &c.

5. But these doctrines do not exactly apply to encysted dropsy. The most common seat of this dropsy is the ovary, where the fluid is contained in several cysts. Sometimes there is but one cyst, in which you find a serous fluid. Sometimes it has a more dense consistence; sometimes it is like arrow-root. Sometimes dropsy is only in one cyst, and that is a large hydatid; but sometimes many hydatids exist at the same time. A lady was supposed to have ovarian dropsy: the belly was immensely enlarged, she became exceedingly dyspeptic, and died suffocated. On examination of the body hydatids were found communicating with the fundus uteri (where they commenced) by a peduncle. They were attached to the peritoneum, and this mass of hydatids, weighing fifty pounds, pressed on the diaphragm, heart, and lungs, and thus killed the patient. Sometimes dropsy arises from rupture of the thoracic duct. In the *Memoirs of the French Academy* for 1700 a case of this kind is recorded. It is a very remarkable form of dropsy. Munro made some experiments to prove this.

I do not know what is the cause of encysted dropsy; and I believe it is right, when we do not know the cause of any disease, just to confess our ignorance.

As to the different kinds of dropsy considered with respect to their seat, one form has been called—

HYDROTHORAX,

where fluid is effused into either pleura, or both. A patient having considerable effusion in both bags of the pleura, the breathing is difficult; the face is almost invariably pale; the patient has great increase of the dyspnœa in lying down, attended by palpitations of the heart; he has also œdema of the lower extremities, scanty urine, respiration more laborious on exertion, sudden starting from the sleep, and sometimes a sense of fluctuation in the chest. Hydrothorax sometimes steals on as an effect of one of the four causes I have mentioned; in some instances very insidiously, but sometimes very rapidly. An intellectual man for a long time laboured under an affection of the liver, and his feet swelled

slightly; the swelling increased; the abdomen became rounder and rounder; his breathing became disturbed more and more; and in a few days he had anasarca, ascites, and hydrothorax.

A patient may have effusion into one side of the chest, and yet have no sign of hydrothorax whatever. I was called, when I was a young physician, to see a patient who appeared to have some abdominal affection. I left him apparently convalescent. In two or three days I was sent for in haste, and found that before I arrived he was dead. I was perfectly astonished: on examination of the body, an immense quantity of fluid was found in one bag of the pleura. This patient was old, and he had a florid cheek. He trimmed the lights on Sunderland pier, and this he did daily without any degree of difficulty of breathing or shortness of breath. He was a very active man, up and down stairs all day long. Laennec's instrument will detect this circumstance; it is a very correct test of the presence or absence of such a collection of fluid in one side of the chest. The respiratory murmur, moreover, will be absent, and the sound on percussion will be dull, if there be hydrothorax.

Some authors pretend to lay down a diagnosis between dropsy of the pericardium, and dropsy of the pleura. In dropsy of the pericardium they say that the patient is easiest when he is bent forward, but this accompanies also very frequently dropsy of the pleura. It is a strong indication that something is wrong in the bag of the pericardium, which may or may not be effusion into the bag. In dropsy of the pericardium, it is said that the heart gives a sort of a double stroke. This may be the case sometimes, but I am certain it is not always so. Sometimes there is uneasiness about the heart, a tendency to syncope upon motion, occasionally pain shooting down the left arm, &c. These affections frequently co-exist.

ASCITES,

or effusion into the cavity of the peritoneum, sometimes forms very slowly, sometimes very rapidly, from one of the causes of dropsy I have already mentioned. The belly is elastic, and becomes fuller and rounder: the roundness at first adding beauty to the form; especially in the female, but at length it increases until it becomes a deformity; and the skin has cracks or white lines running across its surface, and has a very smooth shining appearance; the veins are more apparent and more distended than natural; there is a sharp peaky expression of countenance when it has existed for a long time; the extremities are emaciated; and

the general health suffers considerably. One of the most decisive marks is this; press your hand on one side of the abdomen, and then striking the fingers of the other hand on the opposite side, you will perceive a sensation like that of a wave striking against the opposite hand. A fillip will sometimes show it more distinctly.

OVARIAN DROPSY

frequently forms very insidiously. A small tumour, seated at first in the region of one of the ovaries, gradually enlarges, and acquires ultimately an enormous bulk. This kind of dropsy seldom disturbs the strength materially, or renders the urine scanty; the patient's health does not suffer as it does in ascites. You must attend to the history of these cases, and under these circumstances the presumption is that ovarian dropsy exists.

Pregnancy may be confounded with ascites. Mistakes of this kind have occurred to several very intelligent men. Of two medical gentlemen, one thought a lady to be the subject of ascites, and, having consulted the other, he performed the operation. After the operation the lady was soon the subject of labour-pains, and was delivered of a child; and it was found that the uterus had been penetrated. Two medical men urged a woman to undergo the operation of tapping for dropsy, and this threw her into so much mental agony that she fell into labour. A very excellent surgeon performed the operation in a similar case, and the result was fatal. This shows the necessity of caution in forming a diagnosis. We should condemn criminality in our profession, but not error of opinion. Let any man lay his hand upon his heart, and ask himself, and his conscience will tell him he must have committed many errors, especially in this infant state of medical science; for I repeat, that we are merely on the threshold of the sanctuary of medical science. A friend of mine, who had tapped a woman repeatedly for dropsy, was sent for to perform the operation upon her again. On examining her, from the appearance of the breasts, and other circumstances, he was led to suppose that she was pregnant as well as dropsical. He paused, and did not perform the operation of tapping—and she was delivered of a living child. If you have the slightest doubt in such a case do not operate till the expiration of more than nine months from the cessation of the menstrual discharge. If you trace the history of the case

minutely, you will generally come at the truth, for most errors of this kind in practice arise from hurry. Almost all my errors have arisen from that cause; and the more and more I see of practice the more convinced I am of the necessity of a minute investigation of symptoms, especially at the first visit to a patient, which should always be a long one. In tracing the history of cases backwards (those cases I mean where pregnancy may be suspected,) always take into account the fallacy of human testimony. In pregnancy there is usually more or less vomiting, especially in the first four or five months, and the patient has a good appetite, which is a very remarkable circumstance; she generally has an appetite for strong tasting things, as salted or high-seasoned things. There is enlargement of the breasts, a dark areola, general enlargement of the abdomen, and the abdomen is round, even, and hard, and has a very different feel from dropsy of the abdomen. If you have any doubt on the subject after six months, when the uterus has left the pelvis to a considerable extent, if your ear be well educated you can hear the pulsation of the foetal heart, and a peculiar rush of the blood, which is the circulation of the placenta. As to the round even belly, you should remember that perhaps there may be twins. If you apply a cold hand on the abdomen you will almost invariably feel the motions of the child. You should take into account the character of the female. I have met with young married women who have been flatulent, whose stomachs have been disordered, and the menstrual discharge ceasing they have fancied they were pregnant; they have made the baby's clothes and have engaged the accoucheur. Sometimes, like the witches in Macbeth, it has vanished into soft air. In all doubtful cases be excessively careful. It is astonishing how circumstances of this kind will take place in situations of life where you would least expect them. A lady in this state went from one medical man to another to get an opinion favourable to her wishes; she came to me a short time before her delivery, and the motions of the child could be distinctly felt, and she had all the appearance of high health, while in dropsy there is a faded appearance of the skin.

ANASARCA

is a soft inelastic swelling in the cellular membrane, easily detected by pressure. Press deeply into the skin, and your fingers leave a pit. Anasarca takes place in the integuments of the belly sometimes, and

there is often a feeling as if of an obscure fluctuation. The same occurs sometimes in an erysipelatous arm. Dropsy in the integuments of the belly is easily distinguished from dropsy of the peritoneum. When it exists in the integuments of the abdomen you may bury your fist in it. This is a certain indication of it.

TREATMENT OF DROPSY.

You should in all cases investigate the cause, whether it be inflammation, plethora, obstruction to the return of blood, or some change in the blood, or whether the dropsy be encysted. It is in vain to prescribe for a symptom without reference to a cause. Books tell us that the treatment of dropsy is very simple. They tell us that there are two indications; one is to evacuate the fluid, and the other is to prevent the recurrence of it. All this is very true, but dropsy, as far as its cause and its treatment are concerned, is very different. Some forms of dropsy are remediable; those arising from inflammation generally are so.

1. If dropsy be connected with inflammation, the urine is scanty and high-coloured, and on boiling it, or adding to it nitric acid, it very often, but not always, deposits albumen. Other general symptoms will guide you, as hardness and frequency of the pulse, a furred tongue, and a hot skin towards night. Bleeding, purging, and a regulated diet, are to be adopted in these cases. In some strong subjects you may bleed largely, but in delicate patients you must abstract a moderate quantity of blood. Other medicines greatly assist you in these cases, as digitalis, squill, or calomel. Digitalis may be given in infusion, two drachms morning and evening, gradually increased to half an ounce, six drachms, or an ounce, twice a day. Of the tincture of digitalis ten drops may be given twice a day, gradually increasing the dose. In giving digitalis attend to the state of the pulse, of the stomach, and of the head. If there be retching, or giddiness, or if the pulse become small and slower, omit the digitalis. If it produce very alarming effects, give ammonia and wine, or opium and brandy. Squill, when recent, operates remarkably well. It often fails as a diuretic, because it is not good. Colchicum is another remedy which has very great efficacy. I generally give colchicum twice or three times a day, with a purgative; it increases the flow of urine in inflammatory diseases very remarkably, and tends powerfully

to carry off the inflammatory symptoms. When it occasions any degree of sickness, withdraw it immediately.

2. When obstruction to the return of the blood exists as the cause of dropsy, you must ascertain what is the condition upon which it depends, in order to know whether that condition is remediable. If it exists about the liver or bronchial linings, you may frequently relieve it : in the one case, by alteratives every second night, and daily purging by calomel, elaterium, or turpentine, with alkalies and a regulated diet : in the other, by purging, diaphoretics, and a regulated temperature. If the heart be obstructed, you must also attend to the liver : alteratives and purging, and moderate blood-letting, with a bland diet and rest, will be of great benefit. Sydenham was in the habit of giving emetics and nauseants in dropsy of the belly ; they are seldom used now : but as ascites is often connected with torpor of the liver, when it arises from that cause, they may occasionally be employed with great advantage.

3. If the dropsy arise from repletion, and if that depend on a very large quantity of blood, you may bleed your patient, open his bowels, put him upon a moderate diet, and let him use a warm bath ; and the dropsy disappears. Nauseants are sometimes productive of great advantage. If the repletion arise from the sudden absorption of a large quantity of water, use purgatives, the warm bath, and occasional alteratives, with rest, a spare diet, fresh air, and a regulated temperature.

4. Where it arises from some change in the blood, with laxity of the solids, you must endeavour to ascertain whether the affection from which that change is derived be a disorder or a disease. If it be a disorder of the stomach, liver, or bowels, as it often is, and you remove it by mild laxatives daily, mild alteratives every other night, fresh air, a bland diet, and bleeding or leeching if requisite, the dropsy soon disappears. If there be organic disease, all that you can do generally is to palliate the disease. One palliative sometimes is the operation of tapping. Diuretics are sometimes useful.

5. In respect to ovarian dropsy, I recommend you to read what has been written on this subject by Dr. Hunter—that patient has the best chance, under this disease, of living longest, who does the least to remove it. It has sometimes disappeared from falls ; but the cysts have in other cases been broken, and yet the patient has not been cured.

The operation of paracentesis is commonly performed on the belly. It is not a cure, but a temporary relief. When you perform the opera-

tion, do it with deliberation. If you strike suddenly, the patient may sink under the shock, or violent reaction may occur and inflammation of the peritoneum may be the consequence. You should make the operation appear to the patient to be nothing more than the mere prick of a pin. This is perfectly justifiable. It is a pious fraud, which we are compelled to adopt on account of the infirmities and feelings of human nature. When a very small quantity of fluid exists in the belly, the colon is sometimes uncommonly distended with flatus, and comes against the peritoneum or parietes of the abdomen; and if you perform the operation too early, you may very easily penetrate the intestine by the instrument. Never perform the operation till there is a most distinct fluctuation. The part generally recommended for performing the operation, is just the middle point between the navel and the anterior superior spinous process of the ilium. One objection is, that the recti muscles are sometimes pushed aside, and the epigastric arteries following them, one of these vessels may be divided. The preferable place is midway between the pubes and umbilicus, in the linea alba. In performing the operation, take care to keep clear of any vein which may be seen under the skin. Have a proper instrument, a trocar, and, as soon as you feel a cessation of resistance, stop directly, and withdraw the trocar. You should have a peculiar bandage, to save a great deal of trouble. It should be two or three yards long, according to the size of the patient, and should be cut evenly down; then having placed the patient in an easy chair, put this bandage over the abdomen, and having made a small point with a pen and ink where you mean to operate, make a slit in the flannel, and find that point. Two persons should stand behind the patient, and pull the bandage tight. Whenever you perform an operation upon any human being, you should remember to treat the patient with great compassion. Rest and starvation are necessary for the first twenty-four hours after the operation.

Scarifications for letting out the fluid in anasarca I am very much afraid of. I have frequently seen them become gangrenous, especially below the knee.

One of the greatest difficulties connected with the operation of paracentesis thoracis has been the uncertainty of the indications that fluid is positively present in the chest. This obstacle, however, is removed by the use of the stethoscope; and there is now no reason why the fluid may not be removed by the trocar.

As to the—

PROGNOSIS OF DROPSY,

you must found it, in some degree, upon the cause from which it proceeds. If the cause be inflammation, the prognosis is very often favourable. If it be from some change in the blood, &c., it is favourable, if that change be arising from mere disorder. If it be arising from organic disease it is almost invariably unfavourable. It is connected with organic disease most frequently in persons who are advanced in life. If there be disease in the abdomen, the peculiar expression of countenance which I have mentioned often occurs.

THE END.

SUPPLEMENT.

RECAPITULATION

OF

THE INTERNAL PATHOLOGY

OF

FEBRILE DISEASES.

FROM whatever cause febrile diseases may proceed, the doctrine of a congestive, a simple, and an inflammatory variety, will go far to explain the internal pathology of all : for how much soever the external symptoms differ, still one or other of these varieties will be found to predominate, and its effects on the viscera will constitute the great objects of treatment ; though of course no prudent practitioner will ever fail to take into account the minor bearings of the external symptoms, and all the leading peculiarities of the sick. It was noticed in the beginning of this work, that the causes of fever might be arranged into three classes, namely, specific contagions, marsh and similar effluvia, and such ordinary causes as cold, intemperance, and the like, which cannot be referred to either of the foregoing classes. Now the effects of these three classes of causes may be reduced to two kinds—common effects, and peculiar effects. The common effects are, venous congestion, simple excitement, and that arterial disturbance called inflammation ; the peculiar effects, though not solely confined to the outward signs, are most conspicuous in them, the appearances of the skin, for example, respectively differing in typhus, measles, and scarlet fever. Some of the grand effects of the specific and ordinary causes shall first be traced, and those of marsh effluvia afterwards briefly noticed.

It almost invariably occurs in fevers preceding from specific causes, and very often in those proceeding from ordinary causes, that they are ushered in by a general lassitude, variable as to degree and duration, in which the nervous sensibility, as well as the muscular tone, is diminished, the animal heat reduced or rendered irregular, the pulse oppressed, and the functions of the stomach mostly impaired. When this primary stage is not succeeded by an increase of the heart's action and of the animal heat, but remains and interrupts the usual series of febrile phenomena, it constitutes what I have denominated the congestive variety of fever, which may be traced in the works of most authors who have written from extensive observation, though its pathology has generally been confounded with that of the other forms. The first operation of specific causes may be directly on the nervous system, from some peculiar property, or it may be indirectly by inducing some change in the constitution of the blood; and in like manner the first operation of ordinary causes may be directly on the nervous system by a general shock, or it may be indirectly by abstracting caloric, which is one of the natural excitants of the body. In the operation, however, both of specific and of ordinary causes, the intercourse between the nervous and vascular systems is signally displayed, from the impressions communicated to the former, being concentrated on the moving power of the latter, for the heart's action is remarkably oppressed. The superficial veins contract, and the blood retiring from them into those which are deeper seated, is at last preternaturally accumulated about the right ventricle and the large internal veins, while proportionably less blood than common flow on the side of the arteries. Thus the natural balance between the venous and arterial apparatus is lost, the right ventricle being considered a part of the one, and the left ventricle a part of the other. Is this peculiar state, then, of the heart, real debility, or is the strength of that organ merely suppressed, from the over-accumulation of blood in the veins? Few questions in pathology are more important and difficult than this, if viewed in all its bearings. Though Sydenham has not designated the congestive variety of fever by any particular name, he was nevertheless fully aware of its existence, and considered it solely to depend upon an oppression, by which nature was so much overcome as not to be able to raise regular symptoms. In illustration of this opinion he gives the case of a young man, who seemed in a manner expiring, and whose skin felt so cool, that he failed to persuade the attendants that the youth had a fever, which could not, he continues, disengage and show itself clearly, because the vessels were so full as to obstruct

the motion of the blood. Sydenham declared, that upon bleeding him the fever would rise high enough. Accordingly he took away a large quantity of blood, and as violent a fever openly appeared as he ever encountered, which did not abate till bleeding had been three or four times used.* In the prior editions of this work, I was not aware of such a coincidence of opinion and practice with one whom I venerate beyond any past authority in physic. The sentiments, indeed, of Sydenham, are similar to those which I formerly advanced, though doubtless he has expressed them in terms too general correctly to apply to all the various modifications and stages of congestive fever.

If we take the very extreme cases of venous congestion, those in which the *causa morbi* is at once so perfectly overwhelming as really to sink the constitutional powers for a time, we should be disposed to defer evacuations until the first shock was over; as we find is every day done by the best practical surgeons when the force of the heart is subdued, and the animal heat reduced every where below the natural standard, by the great shock of a fall from a height, or other accident. In all such extreme examples, the immediate object is to restore the animal heat by external and internal warmth, and to keep the heart in play by the cautious exhibition of cordials. The first shock being once over, if what is called reaction should follow, if the heart's action and the animal heat should be preternaturally exalted, then the indications for evacuating are distinct, because the disease has been converted into one of excitement. But if, on the contrary, when the first shock is over, and the constitutional powers have in some degree rallied, but so ineffectually, that the heart is still oppressed and the animal heat still irregular, with palpable signs of venous congestion in some important organ, then bleeding may be beneficial, assisted by those means which raise and equalize the animal heat; for in that case the oppression is continued by effects remaining after the subsidence of the first shock, in fact by over-accumulations of venous blood in the interior, which may prove mortal, if not opportunely removed, by preventing the development of that excitement, which constitutes the genuine febrile state.

The first shock, however, of specific and ordinary causes is seldom immediately threatening, but soon subsiding, it leaves those congestions by which the primary stage is prolonged, where the latent energies of nature are not sufficient to rouse the heart into increased action;

* Swan's Translation of Sydenham, p. 570, the third edition.

and then indeed, as at a certain period of the former case, external and internal warmth, with blood-letting, is often necessary to create that reaction which nature unassisted had failed to establish; but where these means do not fully accomplish the purpose, calomel and opium will be found powerful auxiliaries, when administered in the mode before recommended. Now and then it will be necessary to bleed and to give diffusible stimuli at one and the same time, for this treatment is not inconsistent where the *vis insita* requires to be immediately supported under that loss of blood which is ultimately to free the heart or some other organ from oppression; but it should never be forgotten, that the stimuli are only designed to answer a temporary though important purpose, and that they should be withdrawn as soon as ever the heart's action is fairly renewed, since the danger then will be not from a deficiency, but from the excess of the true febrile condition. Whenever the animal heat is sunk much beneath the ordinary standard, and the pulse continues weak and small, venesection cannot be safely used, until it be in some measure restored by the communication of caloric; and hence in some urgent examples of congestive fever, which arose from a sudden plunge into cold water, I have seen the hot bath first useful, and venesection afterwards necessary to save the patients from apoplexy or some other internal congestion of venous blood.

In those instances of congestive fever where the first attack is not so strongly declared, but where the patient walks about a few days, pale, shivery, and oppressed, an active purgative and the warm bath will sometimes be enough to develop the excitement; but if these should fail, a little blood taken by the lancet or by leeches will generally succeed, particularly when followed by an emetic and a few doses of calomel. But whenever blood-letting may be deemed requisite in the congestive variety of fever, the propriety of continuing or stopping the operation, must be determined by the effect which the loss of blood has upon the pulse. Where the pulse rises in fulness and firmness under the loss of blood, a perseverance in the operation is strongly indicated until the oppression be relieved, though it should not be carried to syncope, as in the excitive forms of fever; and on the contrary where the pulse sinks under the loss of blood it is as certain a criterion, that the operation should be immediately staid, for the object clearly is not to sink, but to free the action of the heart. In the last stage of the congestive variety of fever it is fully as necessary to abstain from evacuations of blood as in the last stage of the excitive forms, because the strength is then so exhausted, in the first, that the only chance for re-

covery is in the use of warmth, cordials, blisters, mild laxatives, and calomel with a little opium; and even what has been said about the propriety of blood-letting in the early stage must only be considered as applicable to those patients who have been healthy previously to the occurrence of the venous congestion, for there are some to whom this treatment is not suitable, as shall now be shown.

Every man who dispassionately reviews the facts which come before him, must be satisfied that there are discrepancies in the condition of patients which demand considerable modifications to be made in the treatment; unless indeed this truth be kept constantly in view, general principles might lead to serious mistakes, for a difference even in the degree of the same application may make the difference between death and recovery in the result of some delicate cases. When congestive fever occurs in persons weak and emaciated from a prior disease, when for example it attacks them while just convalescent from typhus, the strength is not merely suppressed as in those who had been previously possessed of their full vigour, but it is really exhausted by the primary impulse of the disease: therefore warmth externally and internally applied, cordials with very small doses of laudanum, and a moderate allowance of tepid wine and water are necessary in the first instance, with light nutriment afterwards, such as chicken broth or arrow root; and when the temperature of the body shall have been equalized, and the tone of the heart renewed, laxatives must be prescribed to ward off inflammation, which if it should however supervene, must be treated as already directed in such enervated subjects. Some weakly patients, who had before been badly fed, clothed, and lodged, have been brought into the Fever Institution on the fifth, sixth, or seventh day of the attack of typhus, yet with signs of the milder congestive variety; and such have mostly soon been convalescent by the employment of external warmth, by thin tepid drinks of arrow root, and by the exhibition of a few doses of calomel, as the liver as well as the head was affected. Even while composing this page, two patients are in the wards in a convalescent state from this treatment, who were both brought in with cool skins, feeble, fluttering pulse, excessive giddiness, great prostration of the strength, load at the præcordia, and other signs, pathognomonic of venous congestion, and both were so suddenly overpowered at the very commencement, as to be unable to support themselves in the erect position. We are too little accustomed to consider the primary oppression dangerous in fever, because it is most frequently overcome by the efforts of nature, but even then the symptoms of the first stage con-

stitute the elements out of which the subsequent excitement mildly or severely arises according to the degree of those symptoms ; and where the excitement is not thus developed, but wholly or partially suppressed, this smothered sort of fever, termed the congestive, is always highly hazardous. The reaction, therefore, which so very frequently follows the stage of oppression is immediately beneficial, whatever may be its final tendency, inasmuch as arterial excitement is far less dangerous than venous congestion ; and one cannot but admire the economy of nature which has provided, that the last shall generally produce the first, by stimulating the heart to that exalted degree which gives rise to an open and regular fever.

In fevers of venous congestion, there is a deficiency of the full and free action of the heart, and likewise a deficiency or an irregularity of the animal heat ; but there is an excess of the action of the heart, and an excess of the animal heat in open fevers of excitement. Thus it will appear, that the motion of the heart is most intimately concerned in every variety of fever. If when its action is deficient, there be any local loss of tone in the veins, or any latent interruption, to pass over certain peculiarities of structure, the remora and accumulation of blood will take place in those vessels ; as the over-distention of the right ventricle must necessarily impede the free return of all the column of venous blood, and perhaps even some of the blood in the capillary arteries which anastomose with their correspondent ramuli of veins. On the contrary, where the action of the heart is increased, if there be any topical weakness or interruption in any part of the arterial system, the inflammation will be developed in that part, because the augmented force of the ventricle must increase the local embarrassment by sending more blood there than before. The supervention of the hot stage is serviceable by removing the venous congestions of the first stage, but when those congestions have been considerable, they may leave predispositions which may be afterwards converted into inflammation ; yet the hot stage is not necessarily attended by inflammation, as the modern followers of Erasistratus would have us to believe, but exists either without, or with inflammation. That condition of the circulation which exists in the hot stage without inflammation not having any name in our language, I have designated it by the term simple excitement. It is only in bodies, however, where we have the organs in a sound and equalized state as to the circulation, that we witness a fever of simple excitement, which may even of itself so disturb the capillary circulation in its progress as to occasion topical inflammation ; for it is easy to

conceive, that if any part of the capillary system should be once over-distended or otherwise interrupted in its circulation, the action of the heart alone, the mere continuance of the current propelled from the left ventricle might at length produce the disturbance called inflammation; as in any given number of small tubes supplied from a fountain constantly flowing, the water would continue to accumulate in those points where an interruption to its course existed. The infinite number of anastomoses in the capillary system no doubt has been partly designed to compensate for certain degrees of interruption to the circulation of the blood in these wonderfully minute vessels: and indeed without such a provision by anastomoses it is difficult to perceive how the circulation could have been carried on with any degree of regularity, when local interruptions occur or when the heart's action is much disturbed.

It was formerly shown that simple excitement consists in an increase of the heart's action, and of the animal heat, co-existing with some change in the secretions, and with an equable distribution of blood throughout the body. This form of fever is oftenest met in well organized children whose viscera are the soundest. It is likewise frequently seen in those secondary seizures termed relapses, and sometimes remains, as in typhus for example, when every sign of inflammation had been removed. Simple excitement, however, has often a tendency, on the principles already explained, to produce inflammation, to assume in fact a complicated character; so that it should always be moderated from the beginning by alvine evacuations and the strictly antiphlogistic regimen; and these means in a majority of mild cases will prevent the necessity of blood-letting, to which indeed they are frequently preferable, especially in delicate habits. When inflammation, however, occurs, or is even threatened in the early or intermediate stages of this form of fever, general or local bleeding becomes a necessary auxiliary, according to the powers of the patient, and the importance of the organ implicated. But when a topical embarrassment, say of the brain or of the lungs, takes place in the last stage, when the energy of the heart and whole system are giving way, the venesection must be avoided as a deadly mean; and in its stead, gentle laxatives, small doses of calomel, with a little opium now and then, light nutriment, and free ventilation are generally among the best measures at that critical period. Patients die of what is called idiopathic fever, where the excitement had remained simple till towards the close, and then some vital organ began to labour, from some interruption in its capillary circulation. On examining the body, the vessels of this organ are accordingly found injected with blood,

and, may be, there is an effusion of very thin serum. These are pronounced to be genuine evidences of inflammation, and yet the theoretical practitioner marvels, that the patient should have sunk so fast under the loss of blood. But this state of the vessels, so common towards the close of idiopathic fevers, commencing with simple excitement, ought not to be considered as inflammatory, for if it be treated as such, the issue will be death. This state in truth is purely an injection dependant on the failure of the *vis a tergo*, on the diminution of the forcing power of the heart, together with that universal relaxation of which the vessels partake, and which is the main cause of the thin serous effusion. Now that the doctrines of debility have been broken up, and the minds of students are susceptible of novel impressions, it is necessary to warn them against that illogical generalization which makes fever inflammation, and nothing but inflammation; for how plausible soever this simplification may seem in the closet, at the middle, but especially at the advanced stages of many idiopathic fevers, it will be found most perilous at the bedside, where nothing but truth can be available. Under the circumstances here alluded to, a very mild treatment is most frequently requisite, and the very shock of those active measures which would be deemed necessary for the reduction of the supposed inflammation might soon be fatally declared. Nay, there are some cases of idiopathic fever, in which it is best to avoid bleeding even in the beginning, and to trust to purgatives, sub-acid drinks, tepid ablutions, a cool fresh atmosphere, absolute rest, and a light diet of vegetable slops; and such in fact were some of the epidemic cases of that low fever of irritation which I witnessed among the poor of the metropolis within the last year, and such also, I have understood, on good authority, were some of those seen among the poor of Ireland, in which bleeding was not required, as indeed appears from published reports. In those people who have been previously long destitute of several of the necessities, and of all the tranquilizing comforts of life, a very cautious procedure is demanded when they are attacked by fever: for in them a part of the disease is referrible to constitutional irritation combined with constitutional relaxation; and no species of evacuation is in general well sustained, except that procured by purgatives from the intestines. In his range of observation, the medical man should perpetually examine and weigh all the circumstances which bear directly and indirectly upon the cases in which he is consulted; for unless he constantly accustom himself to such minute and comprehensive surveys, his practice will be little better than a series of experiments upon human health

and human life. The causes of disease, the circumstances under which they are applied, the age, habits, and other peculiarities of the sick, with the nature of symptoms and their seats, are all worthy of the most serious consideration; and where the issue of the opinion delivered is the life or the death of the confiding patient, the practitioner should inquire and reflect till his conscience tells him, that he has done his duty. It is not the hurried glance of a few minutes which can penetrate the nature of an intricate disorder, and the plan fittest for its removal; but it is the deliberate investigation which discovers data, and from these deduces appropriate methods of cure. Having so frequently had occasion to insist on the decisive employment of the lancet and of other powerful agents at the outset of certain acute cases, I have felt exceedingly anxious to warn others against their abuse; because, unless the depletory practice be carefully regulated by right principles, it is more likely to be a bane than a benefit to society, especially in the hands of the young and inexperienced, who are so apt to be led astray by daring and unqualified appeals to their decision.

The third variety of fever is that where the excitement is not simple but complicated, where an increase in the action of the heart and of the animal heat is co-existent with the arterial disturbance termed inflammation, which it has been shown is far more frequently a consequence than a cause of constitutional change called fever, and which signally disorders the functions and threatens the structure of the affected organ. When this inflammation occurs at an early period, while the general powers are yet unimpaired, it should at once be decisively met by active measures until the signs of it be removed; but where it exists or occurs at a sort of middle point between the first and the last periods of excitement, the treatment must be accordingly graduated, because to a certain extent the constitution is the less capable of bearing evacuations of blood; and where the inflammation has been allowed to pass on until real exhaustion actually approaches, the opportunity for blood-letting is completely past, and then the combined influences of calomel and opium, with blisters, occasional laxatives, and light support, are the most suitable means. In what are denominated symptomatic fevers, such as ordinary enteritis from cold, the inflammation is a prominent feature almost from the very first occurrence of the excitement; whereas in what are denominated idiopathic fevers, the inflammation frequently is not clearly manifested so early, and this constitutes the great practical difference between them; for in both the inflammation in most instances being the product of the fever, they might in such be

considered pathologically similar. This is a difference, however, which ought to often influence our conduct, because the capability of sustaining the shock of a powerful treatment is much greater in an inflammation which occurs at the beginning of the excitement, than in one which takes place some days later, when the strength has suffered from the continuance of that excitement; and hence evacuations, but especially by the lancet, may often be much more boldly and advantageously pursued in those fevers where the inflammation occurs on the first or second day, than in those where it occurs some days after; and hence also it is often more indistinctly denoted in the latter, because the sensibility of the nervous system is mostly somewhat diminished before the occurrence of the inflammation. The nature of the exciting cause, too, frequently has a strong claim to our attention, as far as the measure of depletion is concerned in the inflammatory forms of fever. For example, the common form of continued fever generally proceeds from the influence of the weather, and during the greater part of its progress is accompanied with much less muscular prostration than typhus; though in the beginning of both these fevers, bleeding is often highly beneficial when inflammation is present, yet even at the middle period of both, the same degree of depletion could not be used with the same effect; for in the common continued fever, the pulse would then mostly be tense and resisting, whereas in typhus it would be soft and very compressible, and a comparison of all the symptoms would show considerably more relaxation in the latter. Besides typhus being fully established at that time, it would hold a determinate course even if the inflammation should be removed, so that the evacuations should be regulated not only according to the degree of the inflammation and of constitutional power, but likewise according to the probable struggle that the patient would have to make afterwards with a fever which must still go on for a certain number of days.* On the contrary, in the common continued

* When typhus is protracted beyond the third week, it will be found, most frequently, that the fever is maintained by some local irritation; and as that local irritation is not always internal, but sometimes caused solely by the formation of an external slough, the surface of the body should always be carefully examined. Sloughs are far more apt to take place in specific than in ordinary fevers, on account of the greater relaxation which occurs towards the termination of the former; and as they at first sometimes give little uneasiness, I have known them overlooked so long, that at last they became truly formidable in typhus. Whenever any fever has run on so as to occasion much irritation, the patient should be laid upon a soft but not a thick bed, for a hard one is then not only liable to induce sloughs, but to give rise to so much irritation as often to prevent the patient from resting well.

fever, if the bleeding removed the local inflammation for which it was used, the fever probably would be cut short at once ; but even if the fever should not be wholly removed with the inflammation, still the bleeding would occasion less diminution of strength. If the parallel were extended to the last stage of the common continued fever and of typhus, still upon the whole the treatment would require to be more cautiously conducted in the last ; though at that critical conjuncture, indeed, seldom any evacuation is justifiable except that procured by the mildest laxatives. Many patients have been lost by pushing purgatives too far in the advanced stages of fever, and that practitioner will be most successful in the main, who, rather relying upon nature than upon art at this period, contributes every thing in his power to the comforts of his patient, by directing or performing the nice and important offices of the nurse.

Moreover in determining the treatment of the inflammatory variety of fever, the peculiar conditions of patients should never be disregarded. Thus if a woman in an ordinary state laboured under peritoneal inflammation of an acute kind, and another in a puerperal state laboured under an equally acute inflammation of the part, considerably more promptitude would be necessary in the last than in the first case ; because, from the peculiar irritability of the constitution in the puerperal state, and from the uterus and adjacent parts being local irritants on account of their tender state and vascular distention, the inflammation would have a more rapid progress. It is for want of having understood this properly that so many men have lost their patients in the puerperal fever, even when they had considered it as an inflammatory affection of the peritoneum. In common peritonitis, say proceeding from cold when the woman had been previously well, the practitioner may often bleed at bed-time, and wait till the next morning with safety before the operation be repeated, and he may in like manner allow respite between operations of the purgatives prescribed ; but in a highly acute case of the puerperal fever in which peritonitis is also the essential disease, if he were to proceed in the same manner, he would be almost certain to lose by far the larger proportion of his patients. In the puerperal fever where an acute abdominal inflammation exists, the practitioner must make up his mind to have no truce with the disease, in a word to bleed early till the pain be completely relieved, and to get the bowels effectually opened as rapidly as possible ; and if his first efforts should not succeed in subduing the signs of the inflammation, so far from waiting many hours, he should repeat the venesection without the loss of one hour,

aye, and shortly have recourse to it again with the same firmness of purpose, if the symptoms render it necessary. In its most acute forms, the puerperal fever is a monster which must be crushed with a giant arm. The puny force of half measures will avail nothing. Exceedingly few instances of the puerperal fever have been fatal in my practice where the patients were committed to my care from the beginning; and I am confident, that the success has been owing solely to decision and attention, for I have watched them through the day and through the night till they were in safety. The loss of a single night has often been an omission so mortal in its consequences, that no future attention of the anxious practitioner could recall it; and I would here, therefore, caution my professional brethren not to let the night pass over without visiting their patients labouring under such perilous diseases as the puerperal fever. It is frequently best to sit up all night with patients, and nothing can be more gratifying where such attention is successful; and where it fails it is still consolatory, because we are then conscious that we have left nothing undone on our parts. The responsibility of medical men is awful on many occasions of urgent disease, and they should never allow themselves to be so lost in the degrading rivalry of money-making, as not to devote themselves earnestly to the science of their profession, and to all the required duties of humanity.

But if there be some peculiarities of patients in which such determined deviations from the common mode of evacuation are necessary, there are others which require much gentler expedients than ordinarily employed; and having particularly pointed out some of these in considering what methods of cure were appropriate to the emaciated subjects of secondary fever, it will only be necessary to repeat how cautiously evacuations should always be pursued where inflammation exists in a body really debilitated. Nay, even in robust habits we should no longer repeat the venesection than the symptoms of inflammation clearly justify, for I have seen patients so profusely and indiscriminately bled that they died from sheer exhaustion; and on examination of the bodies no trace of the original disease could be discovered, though it had been confidently anticipated, that the wreck from inflammation would be fully declared. Even when evacuations of blood have been judiciously made in inflammatory diseases, it is useful to pause, and ask ourselves how much of the remaining disorder of the system may be fairly referrible to irritation; for sometimes the seasonable use of full doses of opium, after large depletion, will save the patient who would otherwise have perished from the irritation previously established in the nervous

system. In making some dissections after the termination of inflammatory diseases, I have been much struck with the exceedingly slight vestiges of inflammation which remained, and on reviewing the history of the cases could not but be convinced, that the patients had not died of inflammation but from irritation, from that increased and continued labour which is, by some change in the nervous system, thrown upon the heart till it is at last exhausted: and since I was well assured of this fact, I think that I have contributed to save the life of several patients by administering opium, when the irritation ran high after copious depletion, until the quick quivering pulse became slow, or until sleep was procured. In alluding to the peculiarities, it may be worthy of remark, that the seat of the inflammation sometimes renders a selection of measures highly expedient. Thus, though an antimonial emetic might be useful in an inflammation of the larynx, it would be quite the contrary in common gastritis; and thus, though a full dose of opium might be useful in a painful inflammation of the bowels, it would be prejudicial in the beginning of inflammation of the brain. In the consideration of the inflammatory variety of fever, then, these and other circumstances will not be forgotten by those who are fully aware, that success is often founded upon an attention to minute things. It will be found no unimportant part in the code of medical wariness, for a man to see his orders in critical cases carried fully into effect, for if he trust to others he may be grievously disappointed; and thus, to give an example in point, I have known nurses to fail in the application of leeches, or assistants in the operation of venesection, by which the most painful embarrassment was produced from the consequent loss of time.

There are some particulars respecting the animal heat which appertain to excitement when simple, and when complicated with inflammation. In every fever where the animal heat remains preternaturally augmented, the fluids undergo some alterations, and is manifestly set forth in the changes of all or most of the secretions. These alterations, however, are more remarkable in fevers which proceed from specific, than in those which proceed from ordinary causes. In modern times we have been far too much disposed to ridicule the humoral pathology, but the truth is, that all specific fevers may be considered as humoral diseases, so signally and so peculiarly are the fluids affected, and there are many other affections to which this doctrine is in part applicable. If the advancing state of knowledge has revealed to us the incorrectness of the phraseology and reasoning of some old writers, yet we are not thereby authorized surely to despise their communicated facts; and

who can peruse the admirable writings of Sydenham without being assured, that the fluids did undergo changes in the fevers which he has described, and who can at this day watch the progress of typhus at the bed-side, and not be convinced, that they still undergo similar changes? In fevers, the morbid secretions do not so much arise from a fault in this or in that organ, as from some general state of the body influencing the particular secretions; and it has assuredly been one of the most frequent mistakes in modern pathology to infer, that a particular organ is decidedly diseased merely because its secretions are disordered. It is from a fallacy of this nature, that the liver has been converted into the sink of so many diseases. Let any temporary irritation be set up in the nervous system, from a meal of indigestible food, from mental anxiety, or from a debauch of wine, so as to disturb the heart's action and raise the animal heat, the alvine evacuations will soon become unnatural; but here the morbid condition of the bile is not the effect of a disease in the liver, but immediately results from a general state, which being removed, the stools become of a natural appearance. It is precisely the same in most febrile complaints, where the organs do not betray signs of inflammation, and the morbid stools in that case no more indicate a disease of the liver, than the morbid secretions of the mouth indicate a disease of the tongue and salivary glands. A similar mode of reasoning might with equal truth be extended to many chronic diseases, in which the secretions of the liver are disordered, not from an actual disease of that organ, but from an existing irritation in the nervous system; and that irritation in some instances I have known to be created and maintained by the unnecessary employment of mercury, so that the changes of the biliary secretions were first occasioned by this preparation, which was afterwards continued, upon a mistaken principle, to restore those secretions to a natural state. In the process of making common ale, brewers know very well what great changes will be produced in the colour and taste of that liquor, by very slight changes in the continuance and degrees of the heat applied; and so it is, to a certain extent, in the chemical operations going on in the human body, very slight changes in the continuance and degree of morbid temperature affecting the qualities of the secretions.

But though it may be the variations, which the animal heat undergoes in ordinary fevers, by which the secretions are so much influenced in them, yet no doubt something is superadded in specific fevers. The subtle essences of contagion work many changes, as we may see in the peculiar appearances of the tongue and in other secretions, to say nothing

of the special assimilation by which their existence is maintained ; and these changes having been once fairly established, I believe with Sydenham, that the blood must undergo some purifying process, before recovery can take place, an opinion which appears to be confirmed, by the gradual improvement in the secretions as convalescence approaches.* Nothing could have been more morbid than the intestinal and biliary secretions which I have seen in some cases of typhus so far advanced as to render much medical interference more dangerous than useful ; and yet as the excitement abated, as the heart's action and the animal heat became natural, the secretions assumed a healthy appearance, though nothing but a little cold-drawn castor oil had been exhibited. The blood is always blacker in typhus than natural. In severe cases it is remarkably so where the excitement has fully emerged, and at last the solids are most decidedly affected, as any one may perceive who marks the dark hue of the muscles on dissection. This state of the blood in typhus, if I mistake not, is connected with that peculiar depression of strength, and with the peculiar condition of the sensorium, which attend the rise and progress of this disease. Nor may the influence of this state be confined to some chemical change in the constitution of the blood, by which the nervous system and the heart are affected, but possibly some mechanical alterations may thereby take place in the red particles, so that the natural relation between them and the capillary vessels may be more or less disturbed. But the nature of this change in the blood, I do not pretend to determine, and only meant to point to it as an object worthy of far more attention than it has yet received.

As it is of great consequence in the congestive forms of fever, to raise and equalize the animal heat to the natural standard, so it is also highly important in the excitive forms of fever, whether simple or complicated, to reduce the animal heat as nearly as possible to the natural standard all over the surface of the body. This is a practice more especially useful in those fevers which have an idiopathic character at

* Many years ago, I saw typhus treated from an early period upon the cordial plan. It then not only always ran a certain course, but was accompanied with malignant symptoms towards the close ; and I observed, that the attendants and visitors of the sick were very liable to be infected. But on the contrary, in those cases where I have had an opportunity of cutting short at the very outset, or so moderating as to make them assume a mild aspect, I have rarely seen the attendants or visitors sicken of typhus. From these facts, perhaps, it might be inferred, when the disease was cut short or moderated in the beginning, that comparatively little contagious matter had been generated, and hence a great advantage may arise to the community from the modern mode of treatment.

the commencement, and in which the topical affections are the gradual products of the continued excitement. The efficacy of the cold and tepid affusions at the outset of excitive fevers was proved to be considerable by the late Dr. Currie, and perhaps they would have been more so, if he had combined them with those evacuations, which have been found so useful since the first promulgation of his enlightened views. Though when an excitive fever has gone on for several days, the prostration of the system precludes the shock of the cold effusions, yet much benefit may often accrue by lessening the animal heat day after day, and night after night, by the occasional use of ablutions, partially or generally on the surface, according to the predominance of the heat, and to the strength of the patient. In particular, the greatest relief may be frequently obtained from the headach and general distress attendant on typhus, merely by shaving the head, and preventing the accumulation of heat about the scalp; nay, I am fully convinced, that by this simple procedure the organization of the brain may often be preserved from the most serious mischief in the progress of typhus, and similar fevers. In referring to my notes, where I had ordered the head to be shaved, and kept cool in typhus, the pain, aching, giddiness or other prominent symptom for which it was adopted, has so often been reported much easier or entirely removed on the next day, that there are few cases in which I should not now strongly recommend the measure. The heat is often highly accumulated about the head, and when it is diminished by shaving and washing the scalp, it is probable, on the known law of caloric equalizing itself, that the internal heat of the brain is also lessened; and thus the cerebral vessels may become much less distended than they were before, by the abstraction of superabundant caloric from the scalp. But whatever may be the rationale, the benefit is certain. It is to little attentions of this kind, that life may be sometimes saved in fever, however trifling they seem to the theorist.

The animal heat is one of those excitants by which nature appears to keep the heart in regular motion, and between the variations of the degree in the one, and of the action in the other, remarkable relations will be found in many diseases. When the animal heat is permitted to remain long preternaturally high, it not only keeps up the increased action of the heart, and thus endangers the functions and structure of other organs, but it likewise at last exhausts the heart, and the tone of the whole system: on the contrary, when the heat is daily and nightly diminished in continual fevers by tepid ablutions, light clothing, and

a free circulation of fresh air, the heart's action will be moderated, and the strength proportionably saved. On many occasions, I have seen patients with a burning skin, rapid pulse, and a parched, stiff, dry tongue, in the advanced stage of typhus, but on sponging the surface over with tepid water, the heat has fallen, the pulse has grown slower, and the tongue comparatively soft and moist; and from a repetition of the same treatment when the pulse again became higher, the pulse quicker, and the tongue drier, the recovery has been finally ensured, through the co-operation of mild laxatives, and light nutriment. The attention of the faculty has been so decidedly directed to the employment of the cold affusions in the early stage of fever, that the partial or general use of tepid ablutions has been far too much neglected in the middle and last stages; but let any man try them in these stages of the ordinary cases of typhus or of the common continued fever, and he will be convinced, that they have a great though a gradual influence on the issue of the disease. Yet, there will be less need of their repeated employment, if the bed-clothing be duly regulated, which should nearly always be made somewhat lighter towards the evening and during the night, when there is usually an increase of the heat on the surface. As this temporary increase of the heat often gives a sort of false fulness to the pulse even in the advanced stage, the practitioner should remember this circumstance when he makes his visit at night; for this semblance of strength in the pulse should not betray him into active measures at an advanced time of the fever, and indeed if he wait till the next morning, he will generally find the pulse much smaller and softer. It was once my design to have written a short essay on the treatment of idiopathic fevers arrived at the middle and last stages, but having thrown out so many hints on the superiority of mild measures at those periods, such an undertaking would now perhaps be superfluous; though I must remark in concluding this topic, that if any thing more than another could have shown to me the utility of not extending the active treatment beyond the line of the middle stage, it would have been my experience in the Fever Institution, where patients are so frequently admitted late, and where in that case the general result has been decidedly in favour of a mild treatment.

Little has been said in the preceding pages with respect to those fevers which proceed from marsh and similar effluvia, because my experience in them has been exceedingly limited. It may, however, be observed, that the doctrine of a congestive, a simple, and an inflammatory variety of fever applies to their internal pathology, though they

have certainly some striking peculiarities which depend upon the nature of their exciting cause. It would be easy to show from the writings of experienced authors, that marsh effluvium produces sometimes sudden and great venous congestions, by which the usual and proper series of febrile phenomena is completely interrupted; and indeed I have myself seen a few instances of this nature where, instead of the common signs of the cold and the consequent ones of the hot and the sweating stage, the patient was distinctly threatened with apoplexy at the accession of the fit. The ordinary intermittent might be adduced as an example of a simple fever, in which there is a first stage of oppression, a second of excitement, and a third of collapse in every regular paroxysm; and though it is truly marvellous that the fits should come at stated intervals, yet during the apyrexia there are often signs of venous congestion which may possibly be associated with the alternate excitements, and which sometimes lay the foundations of local mischief within. The remittent forms of marsh fever are invariably connected with local irritations, which appear so to modify the operation of the exciting cause as to break through the true intermittent character; and a still higher degree of these local irritations in their turn will break through the remittent character, and produce a continued fever, by maintaining a constant increase of the heart's action and of the animal heat. It is a remark of Sydenham, that when intermittent fevers were rife, continued fevers were liable to be concomitant; and the same cause which produces the former, unquestionably also sometimes produces the latter, either from being applied in a more concentrated state, or from operating on a system where local irritations are easily created. The cold stage of a simple ague affords an instance in which, although venous congestion exist, yet the lancet cannot be employed on account of the excessive reduction of the temperature of the body; and it likewise affords a beautiful illustration of the production of the hot stage, by the blood retiring into the interior, and at last rousing the heart into an energy which it did not possess before. The common continued fever, typhus, and other acute diseases so far resemble the marsh remittent fever, that they usually have some abatement of the pyrexia in the morning; but this more remarkably obtains with what has been called the infantile remittent fever, which proceeds from ordinary causes, and which may generally be cured by local bleeding, mild mercurial purges, anodynes, a very spare diet, and the tepid bath.

It seems to be a received opinion by many, that epidemical fevers

in particular are not under the same influence as sporadic fevers, and that their cure is involved in much greater obscurity. But do they not, like sporadic fevers, assume the congestive, simple, or inflammatory forms? And under this view, are they not, like them, also reducible to precise rules of practice? Yet it is not meant to insinuate, that all epidemics are essentially the same; for it must be manifest, that a similarity in the aspects of the concomitant pyrexia does not establish a sameness in kind, neither does the existence of a sameness in the incidental symptoms; but the distinguishing, pathognomonic symptoms must all agree in kind, which they do not, to justify the conclusion, that epidemics ought to be classed under one head. Nevertheless, it is in the medical, as in the moral world, similar effects may be produced by different causes; and I do mean distinctly to say, that, beside their peculiarities, epidemics generally have such external phenomena, and generally produce such internal derangements, as to prove them to be attended with a congestive, a simple or an inflammatory fever, by the character of which the treatment must be mainly regulated, however various their abstract nature or their origin. If an epidemic were to appear one year under a simple form, it would readily yield to the ordinary remedies; but if in another year it appeared under a highly inflammatory or congestive form, those remedies would be found completely inefficient:—yet from such a result, it would be wrong to conclude, that the epidemic observed no certain laws, for in both the cases supposed above, the febrile phenomena would be governed by regular, though somewhat different laws; and the failure in the last mentioned, should be attributed to the practitioner not having marked this discrepancy which required a correspondent variation in the treatment. The fact is, that in the several varieties of the same epidemic, as different modes of practice are frequently required, as if they were dissimilar diseases, which might be instanced by the histories of the plague, and of several marsh, scarlet, typhus, and other fevers, which have prevailed epidemically under the congestive, simple, or inflammatory characters, and in which similar measures have been erroneously extended to all the forms of the same species of fever. Comets were long supposed to differ from other heavenly bodies, in not being regulated by the same fixed laws; and doubtless such a supposition contributed, in part, to prevent that constant and close observation necessary to perceive how any natural phenomena are directed. This conjecture, however, is now totally removed, by the discoveries which have been made in astronomy. And has not the notion that epidemics do not observe the laws of or-

dinary fevers operated in a similar way, to retard our investigation into the powers which control them? In our successive advances in medical knowledge, we have found the greater part of diseases under the influence of certain modes of action; and our interest in future will be, not in denying that any are altogether or nearly without order, but in diligently inquiring into those laws by which they are governed. As it was by extending the principle of centrifugal and centripetal forces to the motion of comets, that they were discovered to be regulated by the same fixed laws as other parts of the solar system,—so it would be most pleasing to find, that the doctrine of a congestive, a simple and an inflammatory variety of fever might be successfully applied to the whole circle of epidemics,—which may almost be considered as *cometary* in relation to other febrile diseases, and which really shed a disastrous influence over the world.

For several years past, considerable attention has been paid to ascertain the accuracy of those distinctions which have been made in regard to the varieties of typhus; and it is confidently believed, that they have their foundation in nature, no less in this than in many other fevers. Systematic writers have disregarded these distinctions, which are constantly to be seen at the bed-side, and from the due consideration of which correct and comprehensive modes of cure are principally to be deduced. The characters of particular fevers vary at different seasons, as the simple, the inflammatory, or the congestive happens to predominate; nay, even the character of the same variety of fever varies according to the time of its duration, so that the *methodus medendi* requires changes correspondent to all these circumstances. The most beneficial remedies have been brought into disrepute by having been employed without due regard to the varieties, or to the stages of acute diseases; but it is only by marking such minutiae that we can ascertain the pathology and treatment of fever, which often, like the human character, is best discovered by what at first might seem minor circumstances. Unless medical men do assiduously investigate every thing relating not only to the symptoms, but also to the occasions and consequences of those symptoms, as well as to the acquired and constitutional peculiarities of the sick, their practice will be alike indiscriminate and dangerous, in all those cases at least where nice observation is demanded.

It is one of the great advantages of modern medicine, that pathology has been associated with physiology, that a knowledge of the healthy conditions has been considered essentially necessary, inasmuch as the morbid conditions are merely said to be less or more implicated in the

range of fever, its pathology in this work has embraced all the tissues of the body, because disturbance of function itself can only arise from some disturbance in the material organ with which it is connected. In fact every disease is organic when strictly regarded. What is, however, commonly called functional, so far differs from what is commonly called organical disease, that though the tissue affected in the first be disordered in its nervous, vascular, and perhaps chemical laws, yet it has not a certain supernumerary change of structure which attends the last ; so that in the one the healthy state may often be readily restored by natural or artificial means, while in the other, unassisted nature has generally little or no power of restoration, and art is frequently quite unavailable. The influence of medicine consists rather in controlling the irregular movements, than in repairing the marked alterations of structure in the animal machine. Disease is demonstrated by some disorder of the functions, and these have been so arbitrarily arranged by authors, that I have chosen to consider them under three classes, namely, the vital, the mechanical, and the chemical, this being to my apprehension the order of nature. The vital functions principally belong to the nervous system, the mechanical to the vascular system and the solids, and the chemical to the circulating and secreted fluids :* but though each class of functions has its peculiar laws in health and disease, yet they reciprocally act on each other, as has been shown in considering the conditions of the nervous system, of the heart, and of the fluids in fever. When the progress of knowledge shall have removed much of that obscurity which at present hangs over the vital functions and their relations with the rest, the practice of physic in acute diseases will probably be reduced to great simplicity and perfection ; for though the grand effects of these diseases are conspicuous in the vascular system, yet some nervous influence would seem to be frequently behind the scene, upon which those effects may be wholly or partly dependent. Medical practice now is rather palliative than radical, it rather removes effects than causes ; but instead of being thus indirect, it will probably

* In relation to the chemical functions, it has been taken for granted, that all the secretions are diminished in fever, but I believe that this is a complete mistake. The great emaciation of the body under idiopathic fevers, where evacuations had not been induced, and where much of liquid had been taken, has convinced me, that there is some waste by the secretions, which we have not taken into account. An ingenious acquaintance once suggested to me, that the insensible perspiration might possibly be increased in fever, and I am about to institute some experiments in order to ascertain whether or not this be the fact.

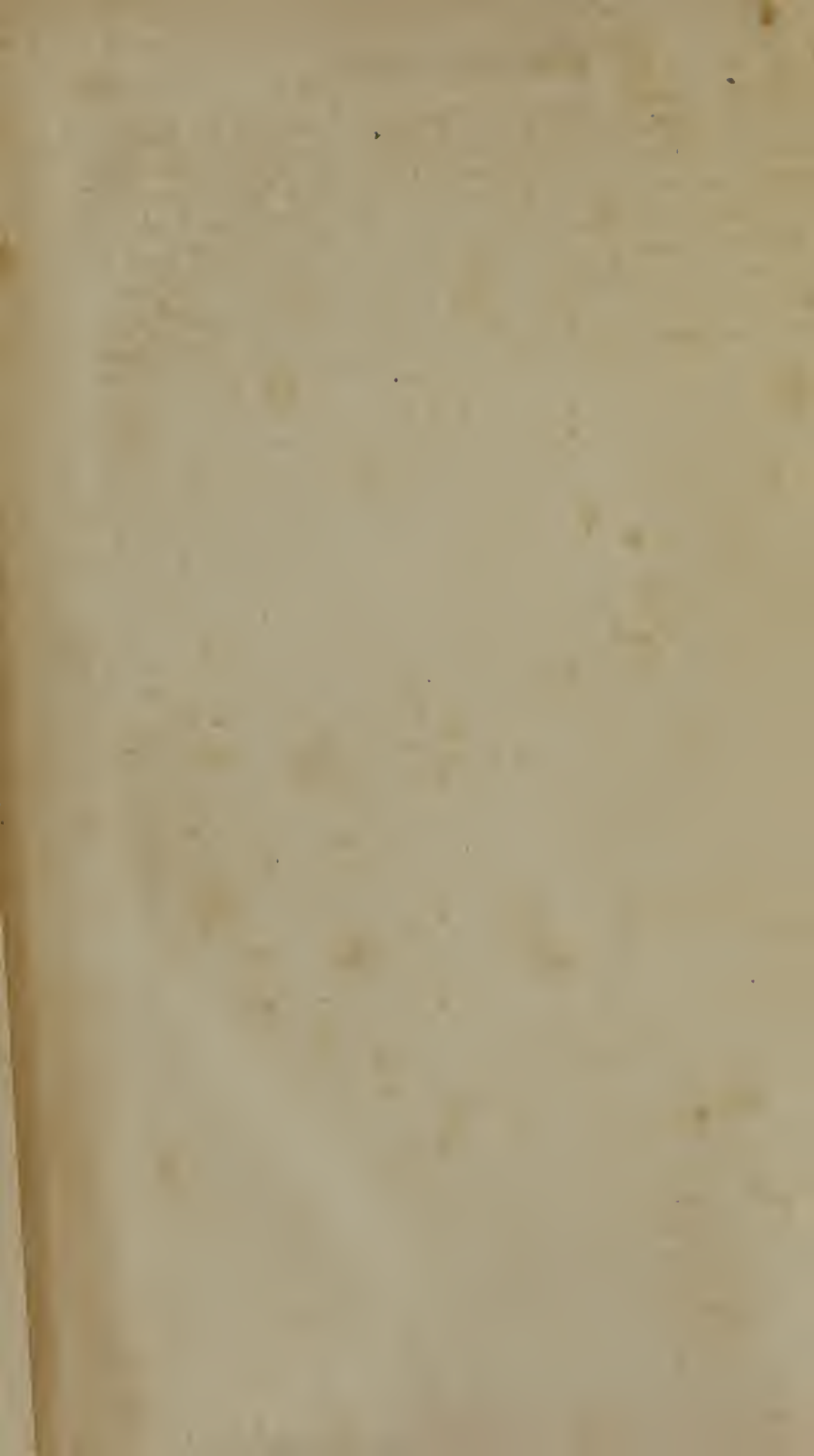
become direct in some diseases, when we know more of the nervous system. Perhaps by more minutely noting the various actions of different drugs, particularly of narcotics,* we might at last be led to results, by which many febrile excitements would be reduced with greater certainty and rapidity ; for the operation of the Peruvian bark and of arsenic in preventing the return of an intermittent, and the power of opium and of colchicum, not to adduce other examples, in controlling some species of pain and irritation, surely warrant us in expecting more important discoveries of this kind. . The phenomena, however, of living bodies cannot be referred, like those of inanimate matter, to any single law whatsoever, and therefore we must not look to one class of functions only, but endeavour to investigate the separate and united influence of the vital, the mechanical, and the chemical functions, as they harmonize in health and are disturbed or disordered in disease ; and when we reflect upon the improvements which have recently taken place, and consider the zeal with which medicine is now prosecuted, we cannot but anticipate its future advancement in every department, since the impulse so strongly communicated may not cease to operate, but be productive of continued and greater exertions. The numerous labours of the present times have contributed to clear away the ruins and the rubbish of past systems, and to lay a deep and a broad foundation ; but the ample superstructure of the science is left to be firmly and splendidly reared, by the medical architects of future ages.

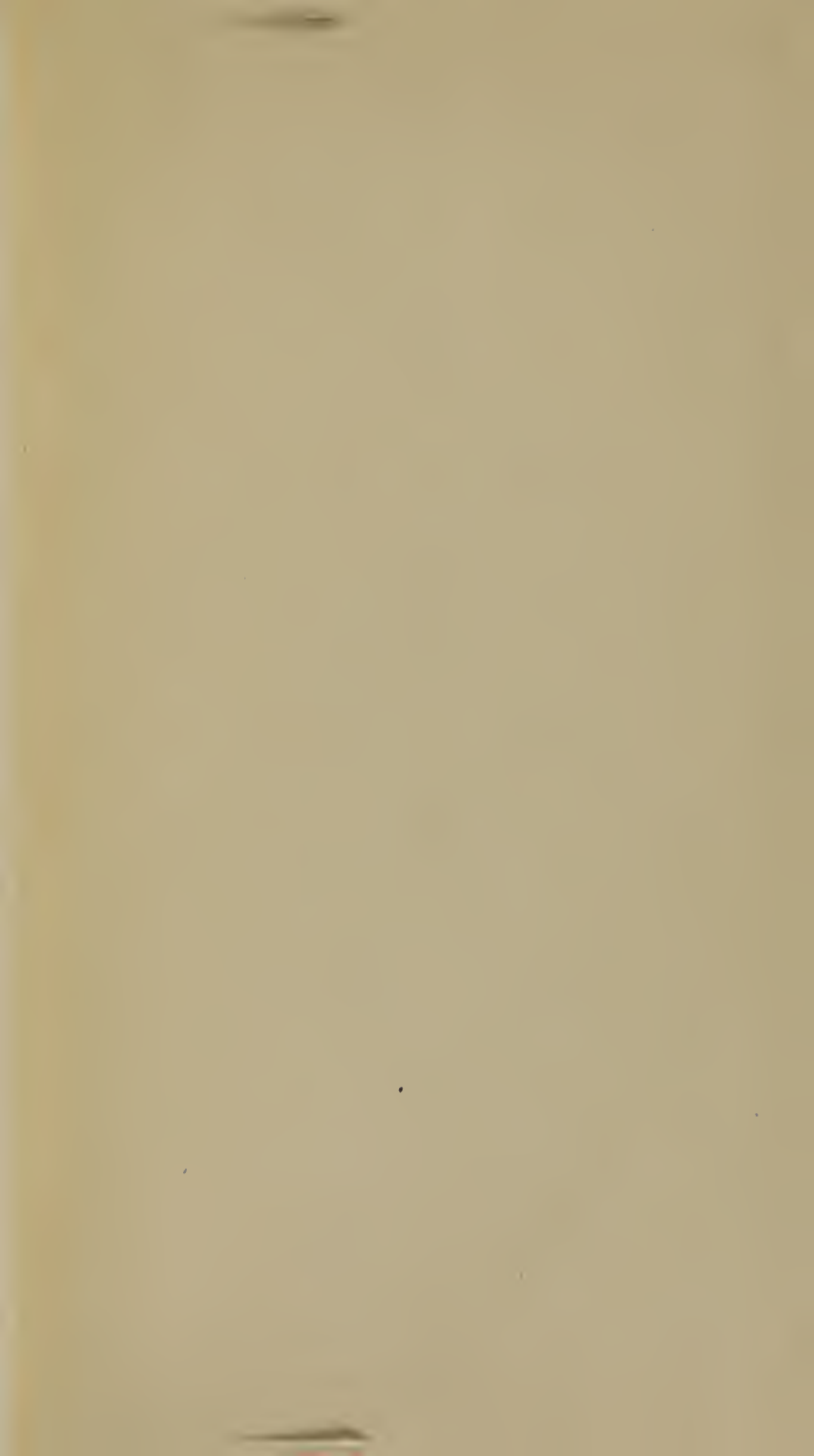
In concluding a work which has occupied a large portion of my life, perhaps I may be excused if for once I give way to personal emotions, and express the gratification which the public assurance of its utility has afforded. That my labours should have proved of the least service, is a full compensation for whatever anxieties may have been attendant on the arduous circumstances under which they were prosecuted ; and as I value the approbation of the liberal part of my professional countrymen next to my own esteem, so I shall endeavour to deserve it by a still more exclusive devotion to medical science. There cannot be any pursuits more worthy of the employment of our active powers than those which meliorate the condition of our fellow-creatures ; and entertaining nothing but feelings of benevolence towards all mankind, I

* The effects of the narcotic tribe are so infinitely diversified as to form a subject worthy of the closest inquiry. Our knowledge of the *popular state of medicine* is exceedingly limited, but if it were extended through different classes and countries, I am fully persuaded that many highly valuable remedies would be found, which have the sanction of long experience.

can truly close this volume in the spirit as well as in the letter of Sydenham. Sanè cum supremus vitæ meæ instabit dies, confido mihi adfuturum alacrem in præcordiis testem, me non solum ægrorum omnium, cujuscunque denum sortis, qui sese curæ meæ concrediderant, summa fide ac diligentia salutem procurasse (quorum interim nemo à me aliàs tractatus est, quàm ego memet tractari cuperem, si mihi ex iisdem morbis ægrotare contingeret) verum etiam pro ingenii modulo omnes animi nervos intendisse, ut si quo modo fieri possit, morborum medela post cineres meos majori cum certitudine administraretur.

THE END.





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